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Department of Main Roads
Annual Report
1986-87



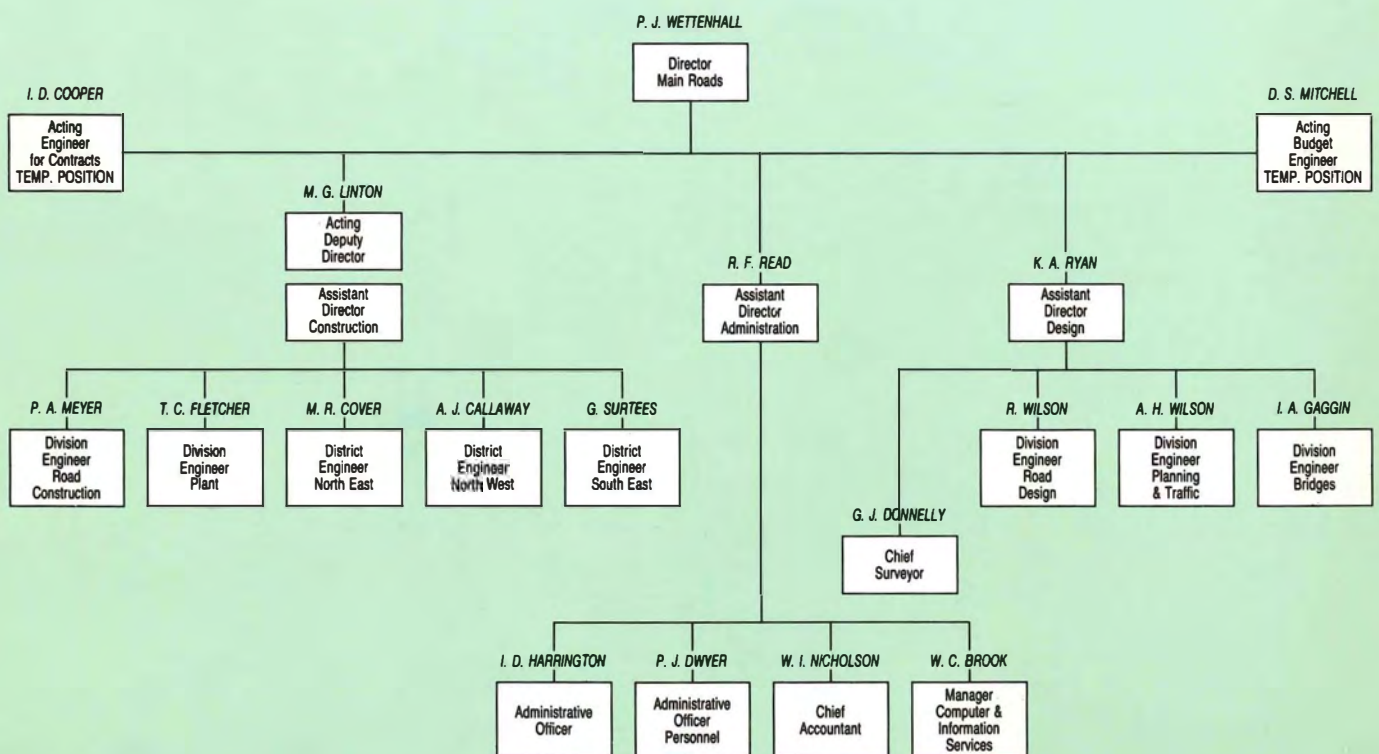


R. F. Read

P. J. Wettenhall

M. G. Linton

K. A. Ryan



PRINCIPAL OFFICERS

It is with great pleasure I forward you the Annual Report of the Department of Main Roads for the year ended 30 June 1987.

As you read this report, I am confident you will be impressed with the differentiation of activities of the Department of Main Roads and the skills and expertise possessed by the management and workforce of all employees in carrying out their statutory obligations.

Road, bridge and harbour works and associated activities undertaken by the Department of Main Roads are a most important and integral role in maintaining and improving the State's economy.

I personally extend to the Department and its employees and sub-contractors, my heartiest congratulations for the excellent work carried out in the past year.



Ian M. Braid
MINISTER





11th Annual Report

CONTENTS

	<i>Page</i>
PRINCIPAL OFFICERS	
OVERVIEW	7
FINANCE	9
MAJOR PROJECTS	
Major Road Projects Completed Summary	16
Major Bridgeworks Completed Summary	
NATIONAL ROADS	
South-East District—	17
Midland Highway:	
Junction with Lyell Highway at Granton	
Brighton/Pontville Bypass	
Bagdad to Dysart	
Overtaking Lane near Kempton	
North-East District—	17
Midland Highway:	
Vertical Curve Improvements at Cleveland	
Powranna Junction	
Epping Forest to Powranna	
Perth Bypass	
Launceston Southern Outlet Road:	
Breadalbane to Strathroy	
Kings Meadows Connector	
Bass Highway:	
Prospect Bypass Stage I	
Prospect Bypass Stage II	
Prospect Bypass Stage III	
Bass Highway at Prospect (Westbury Road)	
Prospect Vale to Pateena Road, Hadspen	
Pateena Road to Westbury	
Pateena Road to Illawarra Main Road	
Illawarra Main Road to Hagley Station Lane	
Westbury to Deloraine	
East Tamar Highway:	
Widening from Bell Bay turnoff to Four Mile Creek	
Four Mile Creek Bridge Widening	
North-West District—	22
Bass Highway:	
Deloraine Bypass	
Meander River Bridge	
Mole Creek Connector	
Mole Creek Connector Underpass	
Duplication Forth River to Ulverstone—Turners Beach	
Road Overpass	
Lovett Street Ramps Ulverstone Bypass	
Duplication Ulverstone to Penguin Stage 1	
Penguin to Howth	
Burnie Expressway—Stage B	
West Park Burnie to Wynyard	

	<i>Page</i>
URBAN ARTERIAL ROADS	
Hobart Statistical Division—	25
Derwent Regional Transportation Study	
Algona Main Road	
Hobart Southern Outlet Road	
Bellerive Bypass	
Extension to Lauderdale	
Tasman Highway/Davey Street Extension	
Brooker Highway:	
Berriedale to Abbotsfield Road	
Access to Derwent Centre	
Brooker Avenue at Derwent Park Road	
Channel Highway:	
Snug to O'Briens Hill	
O'Briens Hill to Kettering	
Launceston Urban Area—	28
Launceston Southern Outlet—Urban Section:	
Glen Dhu Corridor	
Kings Meadows Connector	
East Tamar Outlet	
Midland Highway	
RURAL ARTERIAL ROADS	
South-East District—	30
Arthur Highway	
Channel Highway	
Huon Highway	
Lake Highway	
Lyell Highway	
Tasman Highway	
Bruny Main Road	
Colebrook Main Road	
Fenton Main Road	
North-East District—	34
Tasman Highway:	
Launceston to Scottsdale	
Scottsdale to Scamander	
Scamander to Swansea	
Falmouth to Chain of Lagoons Link Road	
West Tamar Highway	
Bridport Main Road	
Esk Main Road	
Kelso Main Road	
Lake Leake Main Road	
Lilydale Main Road	
Poatina Main Road	
Pipers River Secondary Road	
North-West District—	38
Bass Highway:	
Reeve Street Connector, Burnie	
Burnie to Wynyard	
Cassidys Bog to Rocky Cape Turnoff (Sisters Hills)	
Smithton to Wiltshire Junction	
Smithton Bypass	
Mt Hicks Secondary Road Junction	
Lake Highway	
Lyell Highway Deviation at H.E.C. King River Power Development	
Murchison Highway	
Devonport Main Road	
Forth Main Road	
Pine Main Road	
Sheffield Main Road	
Waratah Main Road	

	<i>Page</i>
West Coast Link Roads—	40
Guildford to Hampshire Link Road	
Que River to Learys Corner Link Road	
Smithton to Zeehan Corridor	
UNCLASSIFIED ARTERIAL ROADS	
Hobart City Council—Burnett Street Widening	42
Municipality of New Norfolk—Glenora Road	
LOCAL ROADS	
South-East District—	42
Tea Tree Secondary Road	
Hastings Caves Tourist Road	
Nugent Main Road	
Coles Bay Tourist Road	
Cradle Mountain Tourist Road	
Pegarah Secondary Road	
UNCLASSIFIED LOCAL ROADS	
Flagstaff Gully Link Road	43
Glenorchy City Centre Bypass—Stage I	
Jordan River Bridge at Brighton	
Lune River Bridge	
Safety Cove Road—Bypass of Port Arthur	
Porters Bridge Road—Bridge Approaches	
Westwood Bridge	
ROAD CONSTRUCTION AND MAINTENANCE DIVISION	
Road Maintenance	45
Landscaping	
PLANNING AND TRAFFIC DIVISION	
Environmental Studies	46
Archaeological investigations for the Davey Street Extension	
Hunter Island Causeway	
Traffic Services including Road Data Base, Traffic Studies, Traffic Counting, Frontage of Development Advice	
ROAD DESIGN DIVISION	
Computer Design	48
Departmental displays and exhibitions	
Road Direction Signing	
Tourism Signing	
Miscellaneous sign contracts	
Traffic Control Devices	
Review of Road Vehicle Limits (R.O.R.V.L.)	
BRIDGE DIVISION	
Hydraulics Section including Launceston Flood Protection Scheme, Road Drainage and Flood Protection	50
Bridge Maintenance including Tasman Bridge, Bridgewater Bridge, Bruny Island Ferry Terminal, Denison Canal Swing Bridge, Bowen Bridge, Batman Bridge, Bridge Maintenance generally	
Lake St Clair	
Cynthia Bay Jetty	

	<i>Page</i>
PLANT DIVISION	
General	54
Plant Purchases	
Training and Driver Testing	
Vehicle Accidents	
Apprentices	
Depots and Workshops	
Workshop Equipment Purchased	
Depot Improvements	
Financial Statements (Annexure D)	
SURVEY SECTION	
General	56
Significant Activities	
MATERIALS AND RESEARCH	
General	56
Central Laboratory	
Field Section	
District Laboratories	
General Matters	
Laboratory Test Statistics	
Bitumen and Bituminous Products	
ADMINISTRATION	
General	59
Staff	
Study Courses and Staff Development Programme	
Long Service Awards	
Industrial	
Workers Compensation	
Computer Information Services Section	
Industrial Safety	
Property Acquisitions	
Stores	
Contracts	
Agreements	

ANNEXURES

- A—CONSOLIDATED FUND WORKS AND SERVICES EXPENDITURE
- B—FINANCIAL ASSISTANCE TO LOCAL GOVERNMENT AUTHORITIES
- C—BITUMINOUS SURFACING COMPLETED
- D—ROAD CONSTRUCTION PLANT SUSPENSE ACCOUNT
- E—DETAILS OF CLASSIFIED ROADS BY LENGTH & SURFACE TYPE

OVERVIEW

Departmental expenditure in 1986-87 was maintained at the record levels of 1984-85 and 1985-86 in dollar terms, however the increase in the Road System Price Index of 6.8 per cent effectively reduced the volume of construction works possible. Substantial progress on the continued implementation of construction and reconstruction works was achieved. This progress was highlighted by official ceremonies to mark the completion of sealing of the Lake Leake Main Road and the opening of the first section of the new link road programme, the new road extending Rebecca Road to Couta Rocks. Other major works completed during 1986-87 included the Burnie Expressway Stage B, the Huon Highway reconstruction from Vincennes Saddle to Grove, the deviation of the Tasman Highway from Fingerpost Road to Black Charlie's Opening and the reconstruction of the Tasman Highway between Bransholme and Derby.

The principal reason for the reduction of road funds in real terms during 1986-87 was the amendment to the Federal Australian Land Transport (Financial Assistance) Act 1985, which effectively removed the indexation provisions of the Act.

A further development in future Commonwealth road funding arrangements during 1986-87 was the adoption of the recommendations of the Cameron Inquiry into the distribution of Federal road grants to the States. The recommendations, which are to be applied to 10 per cent of the arterial and local road funds provided under the ALTP Act, are to give greater emphasis to the funding of urban arterial roads and less emphasis to local roads. Under the new arrangements, Tasmania's arterial road grants will remain at approximately the same level but the local road grants will be reduced by about \$720 000 annually.

The introduction of the recommendations of the NAASRA Review of Road Vehicle Limits for use on Tasmanian roads in December 1986 allowed an increase in mass of a triaxle semi-trailer from 38 tonnes to 41 tonnes. This change, made with the aim of standardising road vehicle limits throughout Australia, will improve productivity of the transport operators, while increasing the wear and tear on the State's roads. It is anticipated that additional maintenance works will be required as the effects of the increased limits become apparent. In addition, twelve bridges on the classified road network were identified as being substandard for the new vehicle loadings and specific load limits were applied. The Department is working towards the upgrading or replacement of these bridges and Bailey Bridges have been erected temporarily to overcome the problem at three locations.

Unusual dramatic increases in commercial traffic volumes using sections of the Lyell Highway, Fenton Main Road, Boyer Secondary Road and Colebrook Main Road have created the need for major maintenance operations and highlighted the susceptibility of older road pavements to severe damage under changing traffic conditions. An ongoing programme of rehabilitation of the older pavements will be required if the surface condition of the classified road network is to be maintained at the current standard.

During the year the operations of both the Road Design and Plant Divisions were upgraded by the acquisition of sophisticated items of equipment. The Road Design Division is responsible for the production of construction plans for all road construction projects and their capacity is being augmented by Consultant Engineers to meet the needs of the ongoing programme. New computer hardware and software to provide the MOSS road design package was installed in Head Office and, after a learning period, should improve the productivity of the Road Design Division.

The Plant Division's heavy dozer fleet was ageing and the price of replacements had escalated to a level well above the amount recovered from depreciation based on the original purchase price. An offer to purchase three modern D8L dozers from the H.E.C. was accepted and four of the oldest D7 size machines were replaced, thus effectively providing a major upgrading to the dozer fleet at a price within the planned replacement cost.

The construction of the Davey Street Extension provided the department with a new form of challenge. The route of the Extension traversed areas of historical importance, including the Hunter Island Causeway, Wapping and the Gas Works site. In order to meet the requirements of the Commonwealth Acts, under which the funds for the project were provided, the Australian Heritage Commission had to be satisfied that the construction would not destroy items of National significance. The Department employed an archaeologist to excavate and record the foundations on the line of the Extension. During these excavations the Hunter Island Causeway was found in a relatively intact state, foundations of buildings were recorded and artefacts collected. The construction then proceeded with the necessary approvals.

The continuing success of the Department in all aspects of the upgrading and maintenance of the classified road network, and in ports and harbour works undertaken, reflects great credit on the personnel of the Department. I extend my thanks to the staff and workforce for their excellent performance during 1986-87.

The activities of the Department have again been supported by private enterprise in the form of consulting engineers, contractors and material suppliers. I also wish to extend the Department's appreciation to all companies and individuals who have provided valuable support in 1986-87.

P. J. WETTENHALL, Director of Main Roads

FINANCE

COMMONWEALTH/STATE FINANCIAL RELATIONS

The Department receives grants for roads from the Commonwealth under two Acts—the Australian Bicentennial Road Development Trust Fund Act 1982 (ABRD) and the Australian Land Transport (Financial Assistance) Act 1985 (ALTP).

Through the ABRD programme, the Commonwealth Government provides funds to the States for roadworks and urban public transport projects, financed from a surcharge of 2 cents per litre on the excise on motor spirit and distillate. The programme is due to terminate on 31 December 1988. In the May Financial Statement the Commonwealth Government announced that programme would be continued for a further 5 years.

The ALTP commenced on 1 July 1985 and will operate for five years. It too is funded from a share of the excise on motor spirit and distillate. The original share was set at 3.66 cents per litre and this share was to be indexed by the Consumer Price Index. However, the Commonwealth Government announced in the May Statement that total outlays under the ALTP and ABRD programmes would be held to \$1 250 m during 1987–88. The share of excise allocated to the ALTP was adjusted to 3.355 cents per litre to achieve this limit. Approximately \$6 m are allocated from the ALTP fund for research, the balance being distributed to the States for roadworks.

The Commonwealth Government appointed an independent committee, known as the Cameron Inquiry, to inquire into the distribution of Federal Road Grants, specifically in relation to the unallocated portion amounting to 10 per cent of the arterial and local road grants under the Australian Land Transport (Financial Assistance) Act 1985. These grants are defined in the Act as a percentage of the total fund. The Cameron Inquiry reduced Tasmania's share of the fund as shown:

TASMANIA'S SHARE OF ALTP FUNDS FOR ARTERIAL AND LOCAL ROADS

	<i>Before Cameron</i>	<i>After Cameron</i>
	%	%
Urban Arterial Roads	0.457	0.460
Rural Arterial Roads	0.519	0.513
Local Roads	1.284	1.195
TOTAL	2.260	2.168

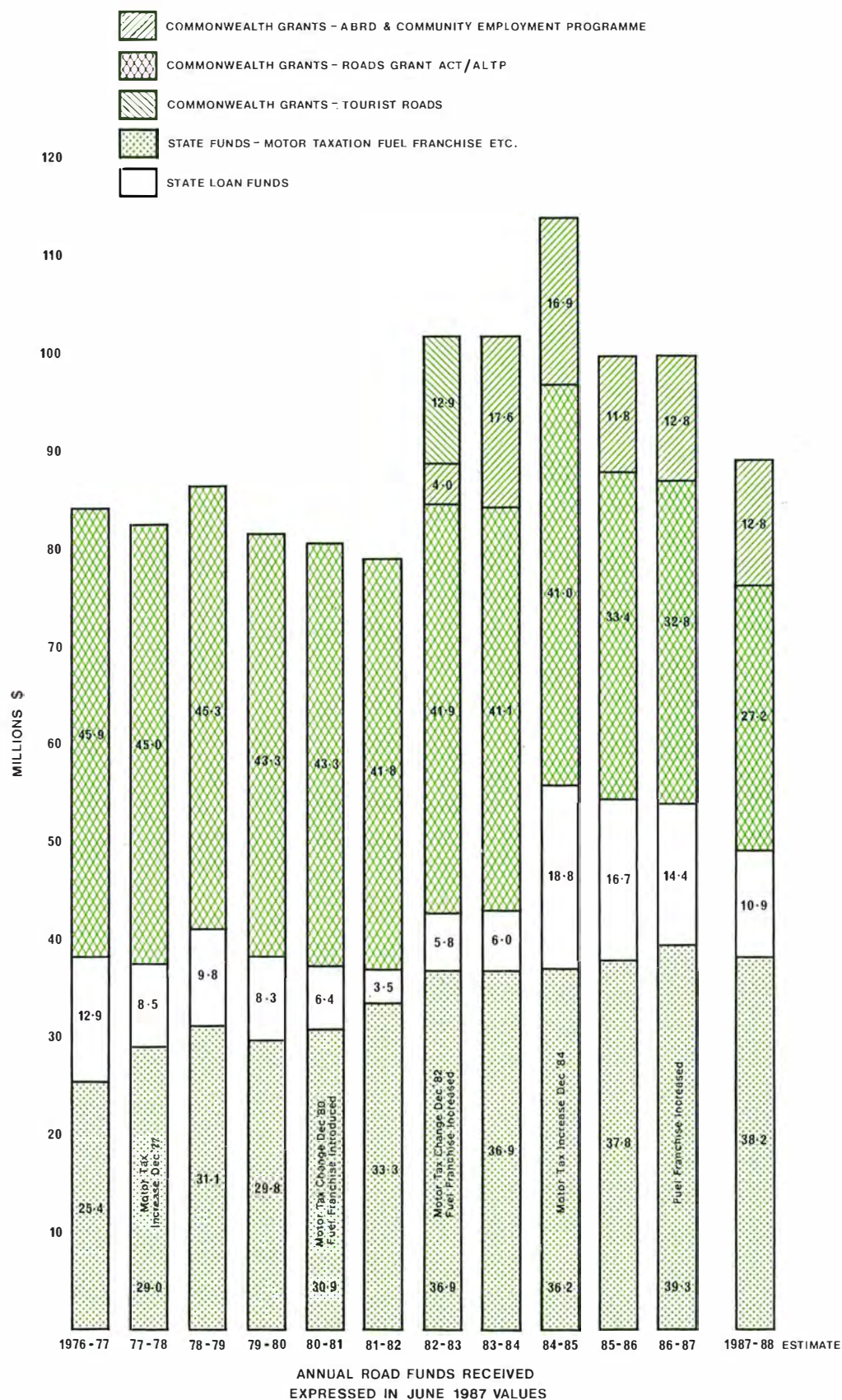
Based on 1986–87 funding levels, the Cameron Inquiry reduced road funds for Tasmania by approximately \$750 000 annually. This reduction was mainly in local road funds.

The allocations of road funds from the Commonwealth Government in recent years are shown on the following table. The reducing share of total funds that is allocated to Tasmania is clearly evident.

COMMONWEALTH ROAD GRANTS SINCE 1981–82

<i>Appropriating Act and Year</i>	<i>Tasmania's Allocation</i>	<i>Total Australian Allocation</i>	<i>Tasmania's Proportion</i>
	(\$'000)	(\$'000)	(%)
Road Grants Act 1981			
1981–82	30 243	661 965	4.57
1982–83	32 406	709 301	4.57
1983–84	34 349	751 822	4.57
1984–85	36 424	797 240	4.57
Australian Land Transport (Financial Assistance) Act 1985			
1985–86	31 217	805 147	3.88
1986–87	32 844	805 450	4.08
1987–88 Estimate	29 100	763 800	3.81
ALTP Plus ABRD*			
1986–87	48 044	1 245 050	3.86
1987–88 Estimate	48 000	1 244 000	3.86

* ABRD funds include allocations to urban public transport.



The bar chart illustrates the funds received by the Department for roadworks from all sources since 1976-77. In each year the funds have been adjusted to June 1987 values using the Department's road system price index.

INFLATION

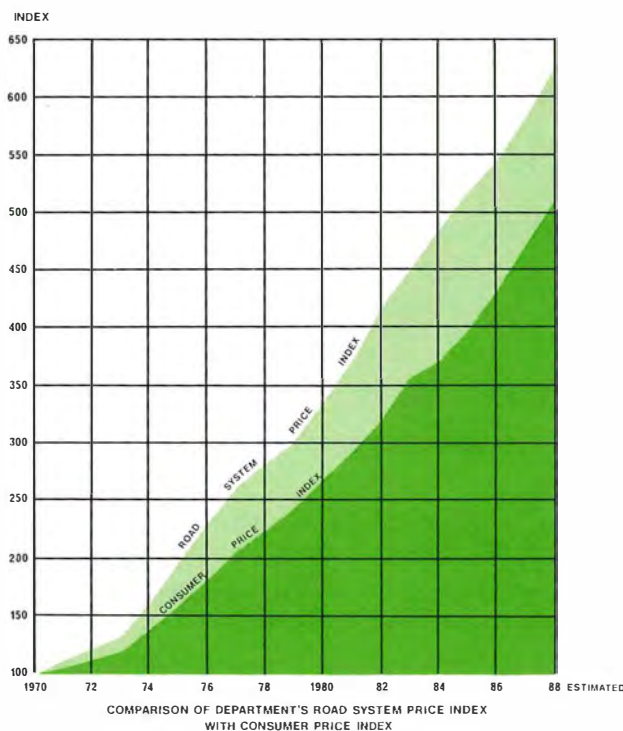
The Department monitors the rising cost of its operations by the use of a Road System Price Index. This is a composite index produced by combining indices for road construction, road maintenance and bridgeworks.

During 1986-87 the Road System Index rose by 6.8 per cent while the Consumer Price Index rose by 9.9 per cent for Hobart. As with the previous year, salary and wages increases were modest. However, the downturn in petroleum prices last year was reversed and quite substantial increases were experienced this year.

A comparison between the Road System Price Index and the Consumer Price Index adjusted to the same base year is set out below. In addition an index produced by averaging the road construction price indices of the State Road Authorities in Victoria and South Australia has been included. In recent years the CPI has risen at a faster rate than the indices for the State Road Authorities. However, in the longer run since 1970, inflationary pressures have forced costs incurred by road construction authorities to escalate generally at higher rates than the CPI.

COMPARISON BETWEEN ROAD CONSTRUCTION PRICE INDICES AND THE CONSUMER PRICE INDEX JUNE 1970 = 100

Date 30 June	DMR		Average Vic/SA SRA's		CPI	
	Index Number	Annual Change %	Index Number	Annual Change %	Index Number	Annual Change %
1980.....	337.6	12.3	331.3	14.9	268.3	10.1
1981.....	374.1	10.8	372.8	12.5	292.1	8.9
1982.....	421.9	12.8	422.5	13.3	321.0	9.9
1983.....	451.0	6.9	465.4	10.2	356.3	11.0
1984.....	487.5	8.1	513.0	10.2	370.5	4.0
1985.....	518.6	6.4	540.1	5.3	396.8	7.1
1986.....	546.1	5.3	565.6	4.7	430.9	8.6
1987.....	583.2	6.8	607.5	7.4	473.6	9.9



COMMONWEALTH GRANTS FOR ROADS

The Commonwealth provided financial assistance to the States for roads in the financial year 1986-87 under the Australian Land Transport (Financial Assistance) Act 1985, the Australian Bicentennial Road Development Trust Fund Act 1982 and the Interstate Road Transport Act 1985. The total grants to Tasmania were \$45 641 896 made up as follows:—

	<i>A.L.T.P. Act 1985</i>	<i>A.B.R.D. Act 1982</i>	<i>I.R.T. Act 1985</i>
	\$	\$	\$
National Roads—Construction and Maintenance	14 693 500	4 824 752*	....
Rural Arterial Roads—Construction and Maintenance	3 780 000	1 337 615*	7 087†
Urban Arterial Roads—Construction and Maintenance	4 020 000	3 351 319*	....
Local Roads—Construction and Maintenance	10 350 000	3 277 623*	....
	<u>\$32 843 500</u>	<u>\$12 791 309</u>	<u>\$7 087</u>

* For road construction purposes only.

† For road maintenance purposes only.

Under the Australian Land Transport (Financial Assistance) Act 1985 Tasmania anticipates receiving approximately \$27 900 000 in 1987-88 made up as follows:—

	\$
National Roads—Construction and Maintenance	10 800 000
Rural Arterial Roads—Construction and Maintenance	4 200 000
Urban Arterial Roads—Construction and Maintenance	3 600 000
Local Roads—Construction and Maintenance	9 300 000
	<u>\$27 900 000</u>

Under the Australian Bicentennial Road Development Trust Fund Act 1982 Tasmania anticipates receiving approximately \$18 300 000 in 1987-88 made up as follows:—

	\$
National Roads—Construction	5 300 000
Rural Arterial Roads—Construction	6 100 000
Urban Arterial Roads—Construction	4 500 000*
Local Roads—Construction	2 400 000
	<u>\$18 300 000</u>

* includes \$149 683 payable to the Metropolitan Transport Trust for Urban Public Transport.

Under the Interstate Road Transport Act 1985 Tasmania anticipates receiving approximately \$25 000 in 1987-88 which will be used for maintenance work on Rural Arterial Roads.

SPECIAL COMMONWEALTH FUNDS

Funds for the construction of the Second Hobart Bridge provided by the Commonwealth amounted to \$60 901 compared with \$3 922 714 in 1985-86. Funding by the Commonwealth for the Second Hobart Bridge ceased as at 30 June 1987.

ROAD FUNDS FROM STATE RESOURCES

Motor Taxation—receipts amounted to \$18 452 112, compared with \$18 186 254 in 1985-86, an increase of 1.46 per cent.

Public Vehicle Fees—fees collected during the year amounted to \$179 505, compared with \$133 179 in 1985-86, an increase of 34.78 per cent.

Petroleum Products Business Franchise Licence Fees—receipts amounted to \$18 462 657, compared with \$15 576 233 in 1985-86, an increase of 18.53 per cent.

Consolidated Fund—Works and Services funds provided to the Department for roads, bridges and associated works, upgrading of fishing ports, jetties and facilities for fishermen and the Launceston Flood Protection Scheme totalled \$16 300 000 a decrease of 3.99 per cent compared with the previous year.

FUNDS PROVIDED BY OTHER DEPARTMENTS AND AUTHORITIES

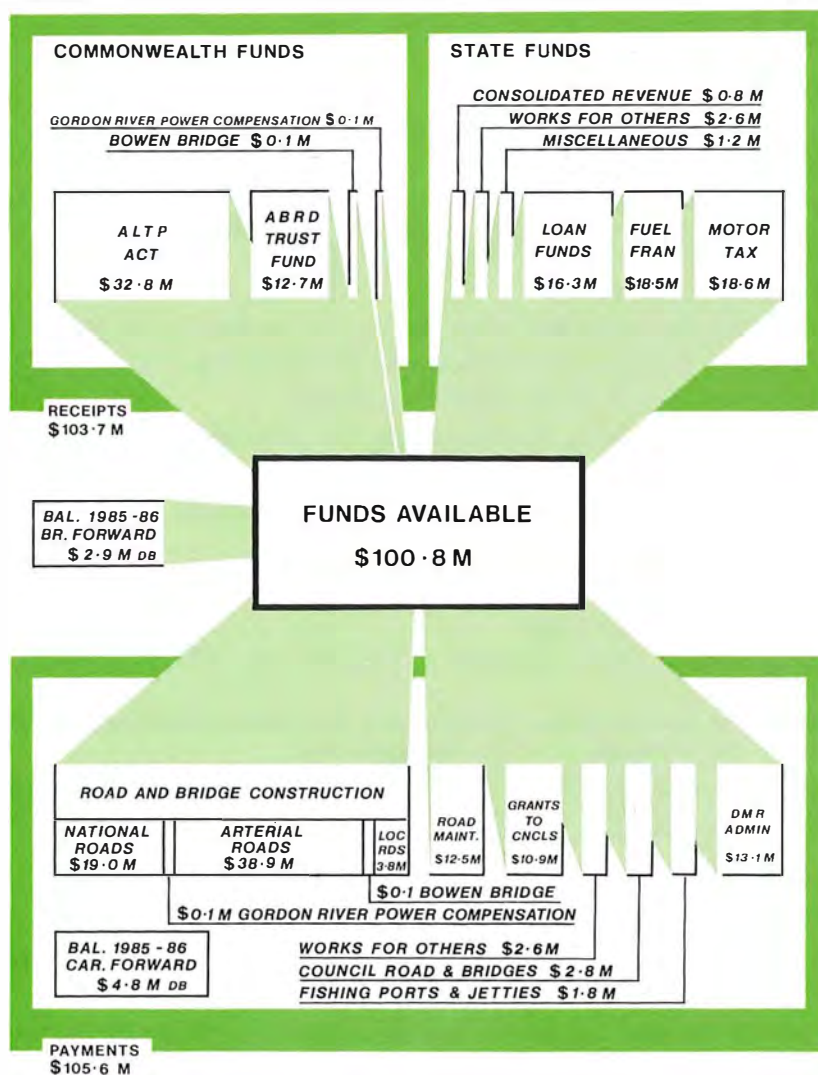
Payments received by the Department for works and services carried out for other Departments and Authorities amounted to \$2 592 146 compared with \$1 169 071 in 1985-86. The Department was involved with minor works for the Construction, Education, Forestry, Health, Housing, Lands, Parks and Wildlife and Transport Departments, the Hydro-Electric Commission and the Metropolitan Water Board.

STATEMENT OF SOURCE AND APPLICATION OF FUNDS

As shown in the following statement, the funds obtained during 1986-87 from all sources amounted to \$105 828 789, a decrease of 1.3 per cent compared with 1985-86.

SOURCE OF FUNDS

1985-86		1986-87
\$		\$
35 811 109	State Motor Taxation, Public Vehicle Fees, Fuel Franchise and Miscellaneous Receipts	38 249 173
42 092 241	Commonwealth Grants for Roads	45 641 896
16 977 318	Consolidated Fund—Works and Services	16 300 000
4 041 255	Special Commonwealth Funds	148 054
902 054	Consolidated Fund—Recurrent Expenditure	991 993
1 169 071	Funds Provided by other Departments and Authorities	2 592 146
6 202 887	Net decrease in funds carried forward	1 905 527
<u>\$107 195 935</u>	TOTAL	<u>\$105 828 789</u>



RECEIPTS & PAYMENTS 1986-87

APPLICATION OF FUNDS

1985-86 \$		1986-87 \$
	State Highways Trust Fund—	
88 278 920	Roadworks	87 625 635
10 397 317	Bridgeworks	11 610 645
98 676 237		99 236 280
	Other Consolidated Fund Works and Services Expenditure—	
1 080 000	Administrative Costs Refunded to Consolidated Fund	940 000
157 548	Jetties and Facilities for Fishermen	359 882
200 000	Launceston Flood Protection Scheme	200 000
969 770	Upgrading of Fishing Ports	1 360 434
2 407 318		2 860 316
	Special Commonwealth Funds—	
3 922 714	Second Hobart Bridge	60 901
89 291	Community Employment Programme	160
29 250	Gordon Below Franklin Alternate Works	86 993
4 041 255		148 054
	Consolidated Fund Recurrent Expenditure—	
188 252	Departmental Administration	224 502
345 782	Workers Compensation (Other Departments)	463 337
82 126	Repairs to Jetties & Facilities for Fishermen	116 039
285 894	Other Miscellaneous Expenses	188 115
902 054		991 993
1 169 071	Works for other Departments & Authorities	2 592 146
\$107 195 935	TOTAL	\$105 828 789

STATE HIGHWAYS TRUST FUND

The State Highways Trust Fund Account is established under the Roads and Jetties Act 1935. The fund is credited with the following:—

- (a) all grants made by the Commonwealth under the Australian Land Transport (Financial Assistance) Act 1985, the Australian Bicentennial Road Development Trust Fund 1982 and the Interstate Road Transport Act 1985;
- (b) all State motor taxation;
- (c) public vehicle fees imposed under Section 20A of the Traffic Act 1925;
- (d) contributions by Municipal Councils for the maintenance of classified roads;
- (e) receipts from sale of stores (other than plant);
- (f) any moneys provided by Parliament for the purposes of the fund;
- (g) profits on contracts awarded to the Department; and
- (h) such other moneys (if any) as the Treasurer may direct.

The fund is debited with the following:—

- (a) expenses incurred in the construction, reconstruction and maintenance of State Highways and other classified roads;
- (b) costs incurred in the maintenance of Council roads which the Minister has agreed to subsidise;
- (c) contributions to the Bruny, Flinders and King Island Municipalities of portion of the Motor Tax collected in those Municipalities;
- (d) all expenditure incurred under the provisions of the Australian Land Transport (Financial Assistance) Act 1985, the Australian Bicentennial Road Development Trust Fund Act 1982 and the Interstate Road Transport Act 1985;
- (e) costs of stores and materials (other than plant); and
- (f) repair and renewal of bridges on Council roads.

A statement of receipts and payments for the State Highways Trust Fund Account for 1986-87 is attached, together with the corresponding figures for 1985-86.

A net profit of \$98 776 was achieved on the seven contracts completed by the Department and for which accounts were finalised in this financial year. This amount is included under Miscellaneous Receipts.

STATE HIGHWAYS TRUST FUND
STATEMENT OF RECEIPTS AND PAYMENTS
for the year ended 30 June 1987

1985-86		1986-87
\$	<i>Receipts</i>	\$
3 321 733	Balance brought forward, 1 July	(2 881 154)
42 092 241	Commonwealth Grants for roads	45 641 896
18 186 254	Motor Taxation	18 452 112
133 179	Public Vehicle Fees	179 505
15 576 233	Petroleum Products Business Franchise Licence Fees	18 462 657
15 897 318	Consolidated Fund—Works and Services	15 360 000
3 952 418	Second Hobart Bridge	51 778
675 533	Consolidated Fund—Recurrent Expenditure	767 422
127 559	Community Employment Programme	229
29 250	Gordon River Power Development Compensation	86 993
1 915 444	Miscellaneous Receipts	1 154 899
101 907 162	TOTAL	97 276 337
	<i>Payments</i>	
	Roads and Bridgeworks—	
21 978 333	National Roads	24 154 134
58 432 484	Arterial Roads	57 074 650
18 265 420	Local Roads	18 007 496
98 676 237		99 236 280
	Associated Works—	
3 952 418	Second Hobart Bridge	51 778
1 209 444	Water Transport Facilities	1 836 355
593 408	Miscellaneous Consolidated Fund Expenditure	651 383
200 000	Launceston Flood Protection	200 000
127 559	Community Employment Programme	229
29 250	Gordon River Power Compensation Expenditure	86 993
104 788 316		102 063 018
(2 881 154)	Balance carried forward, 30 June	(4 786 681)
\$101 907 162	TOTAL	\$97 276 337

CONSOLIDATED FUND—WORKS AND SERVICES EXPENDITURE

The works and services funds of \$16 300 000 allocated to the Department for roads, bridges and other works, were applied as follows:—

1985-86		1986-87
\$		\$
14 570 000	Roads and Bridges	14 379 684
2 407 318	Other Works	1 920 316
\$16 977 318	TOTAL	\$16 300 000

A schedule of expenditure items and amounts is shown in Annexure A. It should be noted that the amounts for the road and bridge items listed in the schedule were in most cases supplemented by funds from the State Highways Trust Fund.

FINANCIAL ASSISTANCE TO LOCAL GOVERNMENT AUTHORITIES

Under the provisions of the Australian Land Transport (Financial Assistance) Act 1985, the Australian Bicentennial Road Development Trust Fund Act 1982 and the Roads and Jetties Act 1935, the Department made direct grants to local government authorities based on a formula approach for construction and/or maintenance of local roads and approved projects for arterial roads controlled by Councils. The direct grants to Councils totalled \$10 860 569, a decrease of 0.92 per cent to the amount of the direct grants provided in 1985-86.

In addition to the direct grants, the Department also provided indirect financial assistance to local government authorities. Under the provisions of the Roads and Jetties Act 1935 the Department financed and carried out the repair and renewal of bridges on Council roads. The Department maintained four Council Roads which have been declared as subsidised roads and provided funds to the Department of Lands, Parks and Wildlife and the Hydro-Electric Commission for work on some local roads. During the year, the Department performed bridgeworks for the City of Glenorchy and roadworks for the Municipality of Clarence, in relation to the Glenorchy City Centre Bypass and Flagstaff Gully Link Road, respectively. The indirect financial assistance to Councils totalled \$2 834 463, a decrease of 30.42 per cent to the preceding year.

The total of direct grants and indirect financial assistance to Councils was \$13 695 032 a decrease of 8.91 per cent to 1985-86. The amounts of direct grants and indirect financial assistance to Councils for the various categories of roads and works are shown in Annexure B.

MAJOR PROJECTS

MAJOR ROAD PROJECTS COMPLETED—SUMMARY

<i>Road</i>	<i>Section</i>	<i>Cost</i>
		\$ m
NATIONAL ROADS		
<i>North-East District—</i>		
Midland Highway	Powranna Junction	0.57
	Vertical Curve Improvements at Cleveland	0.763
Bass Highway	Prospect Bypass-Roadworks Stage 1	1.449
	Prospect Bypass-Roadworks Stage 2	0.563
<i>North-West District—</i>		
Bass Highway	Burnie Expressway Stage B—Oakleigh Crossing to View Road	14.578
	Don Hill to Forth River Roadworks Stage 2	4.909
	Forth River to Ulverstone-Service Roads	0.781
RURAL ARTERIAL ROADS		
<i>South-East District—</i>		
Huon Highway	Vinces Saddle to Grove	4.69
	through Geeveston	0.67
Arthur Highway	Murdunna to Hawks Hill	1.71
Lyell Highway	Gretna to Geard's Bridge	1.669
<i>North-East District—</i>		
Tasman Highway	Branxholm to Derby	2.72
Lake Leake M.R.	Whole length	8.364
<i>North-West District—</i>		
Bass Highway	Mt. Hicks Secondary Rd. Junction—Roundabout	0.41

MAJOR BRIDGEWORKS COMPLETED—SUMMARY

<i>Bridge</i>	<i>Section</i>	<i>Cost</i>
		\$ m
NATIONAL ROADS		
<i>North-West District—</i>		
Meander River Bridge	Bass Highway—Deloraine Bypass	1.84
Turners Beach Road Overpass	Bass Highway—Forth River to Ulverstone	1.14
URBAN ARTERIAL ROADS		
<i>South-East District—</i>		
Proctors Road Underpass	Southern Outlet Road—Duplication to Kingston	0.30
Vincents Rivulet Culvert	Southern Outlet Road—Duplication to Kingston	0.10
Humphrey Rivulet Bridge	Glenorchy City Centre Bypass— Stage 1	0.24
<i>North-East District—</i>		
Replacement of Brick Sewer	Launceston Southern Outlet Road—Glen Dhu Corridor	0.12
RURAL ARTERIAL ROADS		
<i>North-East District—</i>		
North George River Bridge	Tasman Highway—Scottsdale to Scamander	0.66
Little Beach Creek Culvert	Falmouth—Chain of Lagoons Link Road	0.22
Kelso Creek Bridge	Kelso Main Road	0.11
Muddy Creek Culvert	West Tamar Highway—Barnes Hill Widening	0.10
Hogans Creek Bridge	Pipers River Secondary Road	1.10
<i>North-West District—</i>		
Hellyer River Bridge	Guildford to Hampshire Link Road	1.09
LOCAL ROADS		
<i>South-East District—</i>		
Jordan River Bridge	Andrew Street, Brighton	0.98

NATIONAL ROADS SOUTH-EAST DISTRICT

MIDLAND HIGHWAY

JUNCTION WITH LYELL HIGHWAY AT GRANTON

Design

Redesign of this junction was completed. Commonwealth Department of Transport has given approval for this project to be undertaken by the day labour workforce.

Construction

As a preliminary to the widening works, the HEC transmission tower was removed at a cost of \$0.020 m. It is planned to commence road construction in late 1987.

BRIGHTON/PONTVILLE BYPASS

Planning

The comparison and engineering appraisal of options for the future bypass of Pontville and Brighton resulted in a firm recommendation for a preferred route being prepared for consideration by State Cabinet. A report by consultants that the Bridgewater Bridge could be economically strengthened and a traffic survey by the DMR assisted in eliminating earlier proposals to align the future National Route along the eastern shore with a crossing of the Derwent River at the Bowen Bridge or at Austins Ferry.

Affected property owners along the preferred route have been interviewed but it is intended to hold a display to give opportunity for public comment prior to finalizing the Overview Report to the Commonwealth Department of Transport. Confirmation of the route by the Commonwealth will allow for protection of the necessary reservation and remove an element of uncertainty in Council's land use planning for this rapidly expanding municipality.

Preliminary planning and route location investigations for the future extension of the Brighton-Pontville Bypass to Constitution Hill have commenced.

BAGDAD TO DYSART

Construction

A 0.4 km section north of Bagdad was rehabilitated by the replacement of the base course and paving with an asphalt overlay in February 1987 at a cost of \$0.189 m.

OVERTAKING LANE NEAR KEMPTON

Design

Contract plans and specifications were completed for this 2.7 km section which commences just north of the southern Kempton junction and extends to the existing climbing lane on Constitution Hill.

NORTH-EAST DISTRICT

MIDLAND HIGHWAY

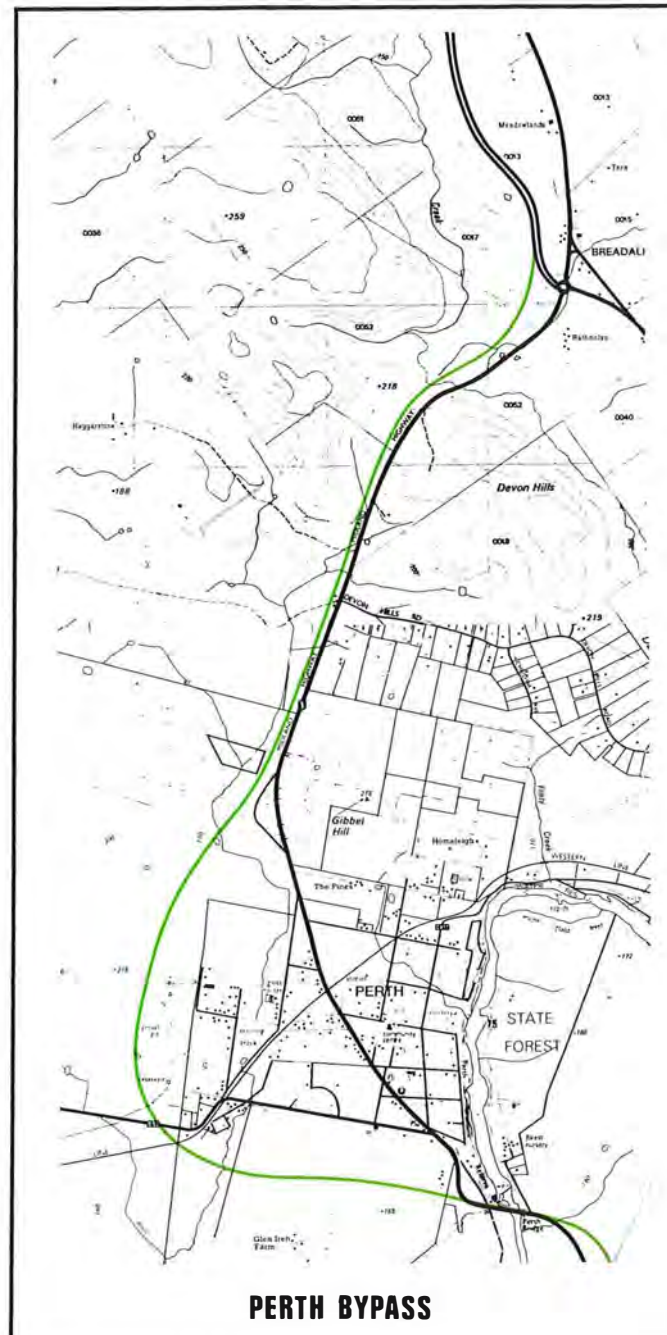
VERTICAL CURVE IMPROVEMENTS AT CLEVELAND

Construction

Reconstruction of 2.3 km north of Cleveland to eliminate many dangerous vertical curves resumed after suspension due to inclement weather and was completed by the DMR as successful tenderer in April 1987. Much improved sight distances have been provided, with safer private and public accesses. Expenditure for 1986-87 was \$0.673 m and total expenditure to 30 June 1987 amounted to \$0.763 m.

POWRANNA JUNCTION**Construction**

Improvement of 1.08 km just north of Powranna Railway Crossing was undertaken by the DMR as the successful tenderer between August and December 1986. Widening of the highway at Powranna Road Junction, correction of property accesses and increasing sight distances to national standard created a superior section of road. Total expenditure was \$0.556 m and expenditure for the financial year was \$0.498 m.



EPPING FOREST TO POWRANNA**Design**

The 9.2 km section between Epping Forest and Powranna was designed and documented for construction by contract. This project includes the provision of overtaking lanes in both directions over 4.5 km and vertical curve improvements.

PERTH BYPASS**Planning**

On completion of the highway planning study of three optional alignments for the National Highway to bypass Perth, a Cabinet Submission was prepared, identifying the western corridor as the preferred route. A preliminary overview report was forwarded to the Department of Transport in February 1986.

A public display has been held and after assessment of submissions a supplementary Overview Report will be forwarded to the Commonwealth for approval.

LAUNCESTON SOUTHERN OUTLET**BREADALBANE TO STRATHROY****Construction**

This project forms part of the National Highway. It is a dual carriageway four lane road and has been constructed as two separate contracts.

The first contract, let to Costain Pearson Bridge in March 1985 for construction of 3.7 km of roadworks, is almost complete. The total expenditure to 30 June 1987 was \$4.087 m and the cost for the financial year was \$1.890 m.

The second contract, let to the DMR in May 1986, is for the construction of a roundabout at the Breadalbane Junction of the Southern Outlet Road with the existing Midland Highway and Evandale Main Road, is almost complete. The total expenditure to 30 June 1987 was \$0.785 m.

KINGS MEADOWS CONNECTOR**Design**

Design has commenced on an interchange with the Kings Meadows Connector following the submission to the Federal Department of Transport of a Highway Planning Report.

BASS HIGHWAY**PROSPECT BYPASS, STAGE I****Construction**

With the major scheduled earthworks and drainage completed last financial year, the first stage of the paving and minor landscaping were undertaken, with completion of the project being achieved in early April 1987. Considerable additional sub-soil drainage works were necessary to eliminate saturated cutting subgrades. Expenditure for the financial year amounted to \$0.244 m and the total cost to 30 June 1987 was \$1.449 m.

PROSPECT BYPASS, STAGE II**Construction**

This project was completed to coincide with the Stage I earthworks contract, west of this site. The DMR was the main contractor, assisted by two local sub-contractors. Completion of this eastern section provides the link between Mt Pleasant Interchange and the Western Earthworks Contract. Expenditure for the financial year was \$0.563 m.

PROSPECT BYPASS, STAGE III**Construction**

This project comprised pavement construction over Prospect Bypass Stage I and II earthworks, and a link road to the Bass Highway on the Western outskirts of Prospect Vale suburbs. The DMR was the successful tenderer. Work began on 23 March 1987 and is due for completion in May 1988. When completed, the project will divert traffic from the narrow, crowded Westbury Road and provide a link to the existing Southern Outlet. Expenditure for the financial year was \$0.478 m.

BASS HIGHWAY AT PROSPECT (WESTBURY ROAD)**Design**

A proposed design for upgrading turning facilities on the highway, in the vicinity of the Ross Ambrose Shopping Centre at Prospect, was forwarded to Westbury Council. Council was asked for comments and to contribute to the cost of the upgrading. The matter is still under review and is currently being assessed.

PROSPECT VALE TO PATEENA ROAD, HADSPEN**Design**

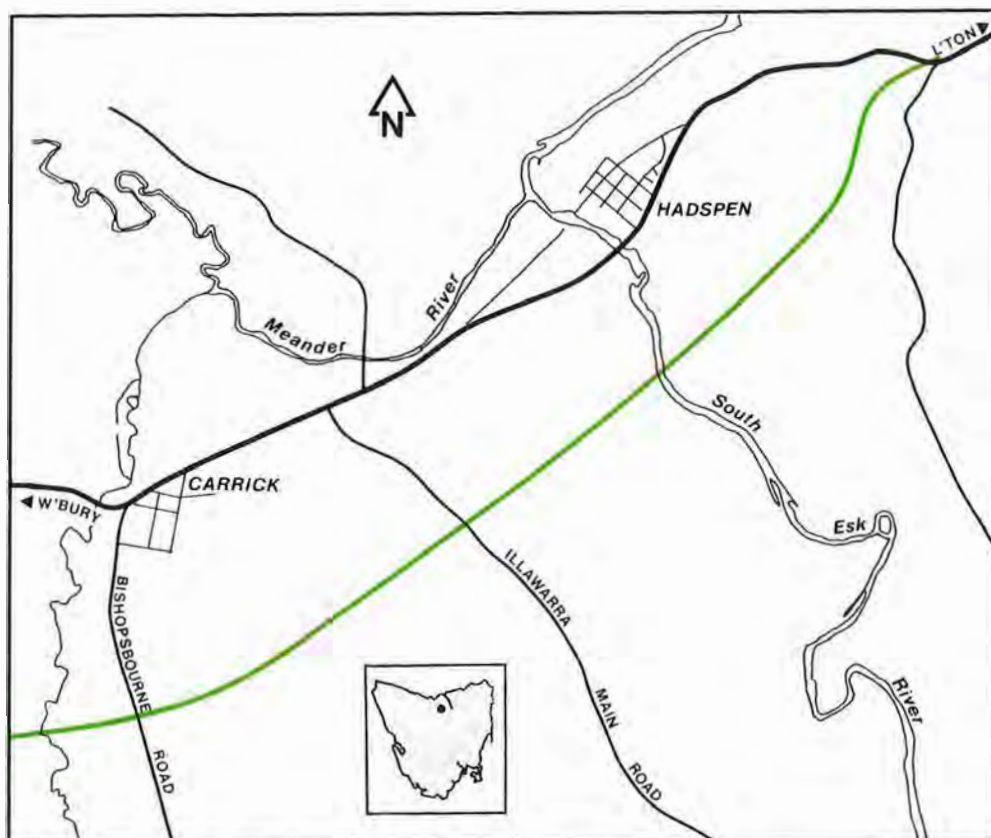
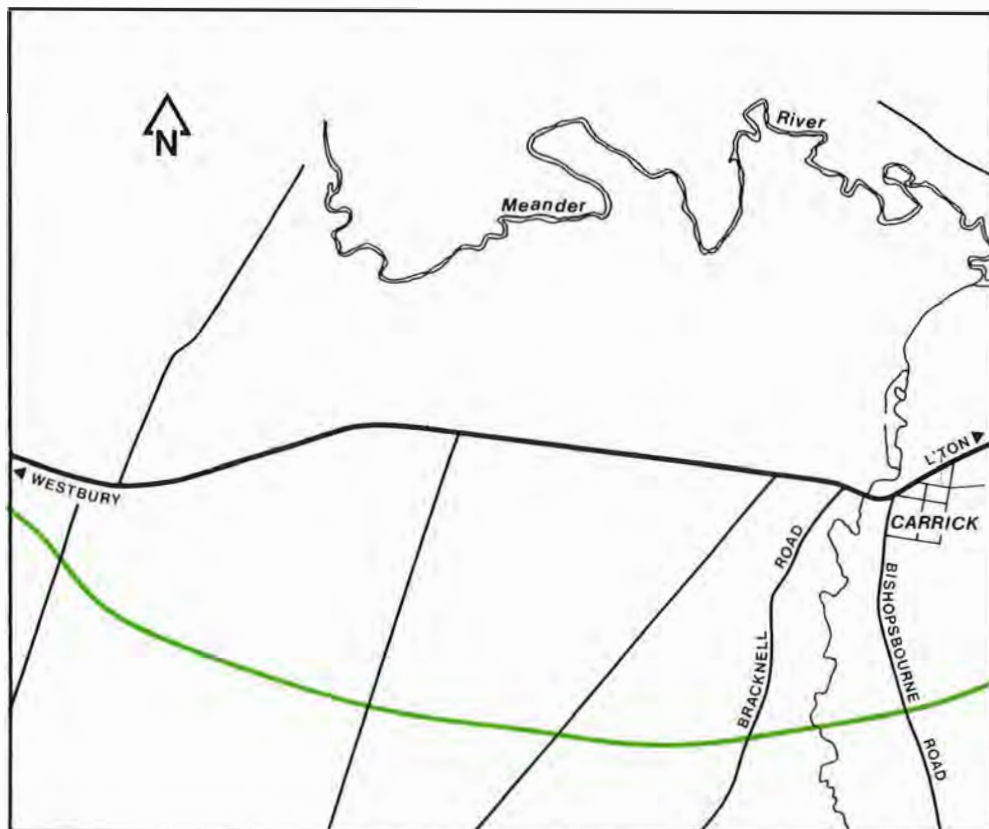
Detailed design and contract plans were completed for this 2 km section of dual carriageway. It is expected that tenders for construction will be called during 1987-88.

PATEENA ROAD TO WESTBURY**Planning**

The corridor investigation for the future location of the National Highway on this link was completed and following approval by State Cabinet, a public display of the preferred route was held at Westbury Council Chambers. Several new issues arose from the display which resulted in amendments to the proposal. An Overview Report was prepared for the section from Pateena Road to Hagley Station Lane and was subsequently approved by State Cabinet and by the Commonwealth Minister for Transport.

Highway Planning Reports for the sections Pateena Road to Illawarra Main Road and from the latter to Hagley have also been completed.

An appraisal of the available options to bypass Hagley either north or south of the town and the implications of a Westbury bypass is currently in progress.

**PATEENA ROAD TO HAGLEY**

PATEENA ROAD TO ILLAWARRA MAIN ROAD**Design**

Detailed design is in progress for the first stage single carriageway to enable design of South Esk River Bridge to proceed.

ILLAWARRA MAIN ROAD TO HAGLEY STATION LANE**Design**

A design brief was prepared for the engagement of consultants to design roadworks and five major bridge structures for this 10.6 km section. Construction work on two of the structures is programmed to commence in mid 1988.

Selection of a consultant from one of the eight firms which expressed interest is expected to be concluded during July 1987.

WESTBURY TO DELORAINE**Planning**

Following receipt of the consultants' report on the Public Attitudes Survey, a planning status report on the available options for this politically sensitive section of Highway was submitted to State Cabinet. Route 'C', the option which bypassed Exton on the southern side was approved in principle as the preferred route and a public display was staged at both Westbury and Deloraine.

The announcement of the Government's decision met with some opposition from local landowners and the Overview Report to the Commonwealth Minister for Transport has now been delayed pending the outcome of a Legislative Council Select Committee inquiry.

EAST TAMAR HIGHWAY**WIDENING FROM BELL BAY TURNOFF TO FOUR MILE CREEK****Construction**

The Department won the contract with a tender price of \$1.508 m. Work began in November 1986 and progressed well until the road was brought to primer seal standard. Adverse weather then caused cessation of works. Completion is expected in March 1988. Expenditure for the financial year was \$1.044 m.

Total cost to 30 June 1987 for all works amounted to \$1.787 m.

FOUR MILE CREEK BRIDGE WIDENING**Design**

Design for road widening was completed for some 500 m and forms the basis of a roadworks contract to follow the bridge widening contract. The design of the Fourteen Mile Creek Bridge was also completed.

NORTH-WEST DISTRICT**BASS HIGHWAY****DELORAINE BYPASS****Design**

Design of the Bypass, west of the Meander River including earthworks and drainage was completed. The section east of the Meander River Bridge could not be finalised due to the investigation by a Select Committee of the Legislative Council of the various alignment options bypassing Exton. Associated aspects of land ownership, services and drainage were investigated. Federal Government approval of the planning report is required.

MEANDER RIVER BRIDGE**Bridge Construction**

Construction of this five span, 142 m long bridge which began in August 1985, was completed in May 1987.

Expenditure in 1986-87 was \$0.690 m and total expenditure to 30 June 1987 was \$1.842 m.

MOLE CREEK CONNECTOR**Design**

Minor design adjustments were made to resolve problems in the area of services, drainage and property.

Construction

The contract for construction of this project was awarded to Avoca Transport Co Pty Ltd, and work began in October 1986. At the end of the year earthworks were completed and pavement work was well advanced. Completion is expected in November 1987. Expenditure during 1986-87 was \$0.810 m.

MOLE CREEK CONNECTOR UNDERPASS**Construction**

Work began in April on this three span, 41 m long underpass, being constructed by Christiani and Nielsen with supervision by Smith, Sale and Burbury.

By 30 June 1987, work was well advanced on the two piers and about 50 per cent of the beams had been manufactured.

Completion is expected in March 1988. Expenditure in 1986-87 was to \$0.338 m.

DON HILL TO FORTH RIVER, STAGE 2**Construction**

Sections of this project were completed progressively by the Department through the year. With completion of the last section in June 1987 all four lanes were open to traffic. Expenditure in 1986-87 was \$1.713 m and the total cost to 30 June 1987 was \$4.909 m.

DUPLICATION FORTH RIVER TO ULVERSTONE**(TURNERS BEACH ROAD OVERPASS—CONTRACT 2)****Construction**

By 30 June 1987 bridgeworks virtually had been completed by a DMR bridge gang, with only minor work remaining. Expenditure for the year was \$0.971 m and total expenditure to 30 June 1987 was \$1.143 m.

SERVICE ROADS—CONTRACT 3**Construction**

This contract, won by the DMR was completed in February 1987. Expenditure for the financial year was \$0.552 m and the total cost to 30 June 1987 was \$0.781 m.

ROADWORKS STAGE I**Construction**

This contract, with a value of \$3.575 m was won by the Department and work began in February 1987. An exceptionally dry season permitted outstanding progress. Earthworks were completed and pavement construction was about half completed. Expenditure for the year was \$1.090 m.

LOVETT ST RAMPS—ULVERSTONE BYPASS**Design**

Design proceeded on the four ramps which will provide vehicles, including heavy transport, with easier and more convenient access to the industrial and central business areas of Ulverstone. The development will incorporate extensions to the existing pedestrian subway under the highway.

DUPLICATION, ULVERSTONE TO PENGUIN, STAGE 1**Design**

The contract design and specification for this project were completed in December 1986 by a consultant. Design work on the Myrtle Creek culverts was also completed.

Construction

This contract, with a value of \$2.571 m was won by Department and work began in April. By 30 June 1987 earthworks were half completed and work was proceeding on the three box culvert crossings of Myrtle Creek. Expenditure for the year was \$0.312 m. A retaining wall to protect the southern abutment of South Road underpass is included in this contract.

PENGUIN TO HOWTH**Design**

The Federal Department of Transport has approved the provision of a half diamond interchange at Pine Main Road, including ramp connections to the east. Pine Main Road will be carried by an overpass bridge over the Bass Highway.

The Highway Planning Report for the Pine Main Road Interchange was submitted to the Federal Department of Transport. Substantial topography survey was undertaken and preliminary design progressed sufficiently to resolve many problems. The design of the overpass has also been commenced.

It is expected that final contract documents will be available for the Interchange in 1987-88.

BURNIE EXPRESSWAY—STAGE 'B'**Construction**

Major roadworks were completed in September 1986 and all four lanes over the complete length of the Burnie Expressway were brought into operation at that time. By 30 June 1987 landscaping was substantially complete and only minor work remained to be done.

Expenditure during the year on the Burnie Expressway was \$2.713 m and the total expenditure to 30 June 1987 was \$14.578 m.

WEST PARK, BURNIE TO WYNYARD**Planning**

A committee of representatives of the Burnie, Wynyard, Circular Head and Waratah Municipal Councils, the Burnie Port Authority, the Royal Automobile Club of Tasmania and this Department, under the chairmanship of the Warden of Burnie, forwarded a submission to the Commonwealth Minister of Transport seeking the declaration of the Burnie to Wynyard Airport section as an extension of the National Highway. The Committee was assisted by a consultant paid by the Department.

The Department has continued with the planning work associated with this section of the highway.

URBAN ARTERIAL ROADS

HOBART STATISTICAL DIVISION

DERWENT REGIONAL TRANSPORTATION STUDY

It is proposed that a consultant be engaged to provide a priority ranking for future road projects in the region. DMR has agreed to this proposal and a consultant will be appointed in 1987-88.

ALGONA MAIN ROAD

All remaining contractual matters, including final payments, were completed this financial year. In addition minor landscaping works involving spray mulching of certain cut batters were undertaken as a trial for future works. Expenditure for the financial year was \$0.455 m and the total cost to 30 June 1987 was \$4.214 m.

HOBART SOUTHERN OUTLET ROAD

DESIGN

Stage 1—Duplication

This section extends from Mt Nelson (Olinda Grove) to Proctors Road Underpass, 1.7 km and is expected to be opened to traffic in late 1987.

Stage II—Duplication

Design for this section which extends from Proctors Road Underpass to Shaw Road Underpass, is now complete. The design of the underpass has also been completed.

Stage III—Duplication

Design is now well advanced on this 3.2 km section which extends from Shaw Road Underpass to Kingston Interchange. It includes the loop connector and the on and off ramp accesses to the Firthside subdivision.

Intersection with Summerleas Road

The addition of a deceleration lane and a right-turn lane for this intersection has been approved in principle. Construction plans are being prepared.

CONSTRUCTION

The construction for the year mainly concentrated on the duplication works from Olinda Grove to Kingston.

(a) Davey Street to Olinda Grove

Minor completion work was undertaken and a flush seal was placed on the curves just south of Linton Avenue Overpass on the southbound lane to facilitate traffic movements and remove a short section of slippery pavement. Expenditure in the financial year amounted to \$0.180 m and the total cost to 30 June 1987 was \$5.231 m.

(b) Duplication Olinda Grove to Kingston

Work progressed on the Stage 1 section from Olinda Grove south of Proctors Road underpass. A feature of the work was the removal of a large amount of rock on a slip area to ensure the safety of the public. Landscape works included spray seeding of the batters. Stage II earthworks to Shaw Road were well advanced. Expenditure in 1986-87 was \$3.709 m and the total cost to 30 June 1987 was \$5.619 m.

BRIDGE CONSTRUCTION

(c) Proctors Road Underpass

This structure carries the southbound lanes of the Southern Outlet over Proctors Road. The bridge consists of single span prestressed concrete beams on 9 m high hinge type abutment walls, with crib block wingwalls. Works were completed in February 1987 at a cost of \$0.301 m. Expenditure for the financial year was \$0.285 m.

(d) Shaw Road Underpass

Procurement of reinforced earth materials and manufacture of panels began in March 1987 for the two single span, 14 m long bridges which will cater for the future dual carriageways.

On-site construction is expected to start in August 1987.

(e) Vincents Rivulet Culvert

A twin cell box culvert was constructed at a cost of \$0.098 m.

LANDSCAPING

A tender for the landscaping design for this important arterial road was awarded to a local consultant. Detailed design for Stages I and II has been completed and Stage III design is nearing completion. Design has included the use of the hydromulching technique in the sowing of the various shrubs and grasses to be used in revegetation. Expenditure for the financial year was \$0.031 m.

Hydromulching is a process by which plant, grass seeds, and fertilizer are mixed in a paper mulch slurry containing polymer glue. This is pumped under high pressure to deposit the seed securely on the cut batter faces. The paper mulch creates a micro environment which assists with germination. The glue binds the surface enabling it to resist damage from rainwater.

BELLERIVE BYPASS**DESIGN**

Final design continued and included completion of a scale model of the Shoreline Roundabout.

The Bellerive Bypass Working Group assisted in investigating the options in the Howrah area. It is proposed to seek public comment prior to making a firm decision on the pedestrian facilities to be provided at Shoreline Drive.

CONSTRUCTION

Works concentrated on the Mornington Interchange with the construction of ramps to the Overpass and the relocation of underground and overhead services. Earthworks commenced eastwards along Oceana Drive to join the previous earthworks at the Saddle.

Expenditure in the financial year amounted to \$2.876 m and the total cost to 30 June 1987 was \$5.020 m.

MORNINGTON INTERCHANGE OVERPASS

This three span, 82.5 m long overpass structure, including the Kangaroo Bay Rivulet culvert and miscellaneous retaining walls, was completed in March. Final pier protection and approach guard fencing is to be constructed when the road pavement is completed.

Expenditure in 1986-87 was \$0.640 m and total expenditure to 30 June 1987 was \$1.146 m.

EXTENSION TO LAUDERDALE**PLANNING**

Three options for the future alignment of the four lane divided highway between the Police Academy and Acton Road, Lauderdale are under investigation.

TASMAN HIGHWAY/DAVEY STREET EXTENSION

This project continued in the financial year. The total cost to 30 June 1987 was \$5.179 m. Details follow:

STAGE I—EXTENSION OF DAVEY STREET FROM HUNTER STREET TO BROOKER AVENUE**Design**

Some design amendments were undertaken during the contract arising from close liaison with other authorities involved, particularly in regards to landscape design and archaeological investigations.

Various designs featuring the archaeological aspects of the excavations exposing the old Hunter Island causeway were investigated by a consultant.

The Hobart City Council public weighbridge at Victoria Dock was removed and a replacement weighbridge established at the Council's Brooker Avenue depot adjacent to the citybound lanes.

Associated designs to upgrade Victoria Dock Bridge and to replace Constitution Dock Bridge were completed. The latter design was carried out by consultants.

Construction

The Department won the contract for construction with the tender price of \$1.456 m.

Difficulties with services and the initial use of the 'MOSS' design technique made construction an interesting experience. Archaeological investigations delayed works some weeks in the vicinity of Hunter Street. This project was opened to traffic on 17 June 1987. Minor landscaping and footpath construction have yet to be completed. Expenditure in the financial year was \$2.631 m.

STAGE II—BROOKER AVENUE TO TASMAN HIGHWAY IN VICINITY OF DAVIES AVENUE

Design

Design has been completed and construction is being carried out by the Department as a day-labour project. The design of the sign gantries has also been commenced.

Construction

This section, extending from Brooker Avenue to Davies Avenue in the approximate location of the slip road, was started in November 1986. Earthworks, drainage and substantial pavement works were completed, along with service alterations. Traffic management has been an ongoing concern due to the need to adjust for the Tasman Bridge tidal flow traffic patterns. Expenditure in the financial year amounted to \$0.661m.

STAGE III—DAVIES AVENUE UNDERPASS AND ASSOCIATED ROADWORKS

Design

This project extends from Stage II near Davies Avenue and includes an underpass taking Davies Avenue under the Tasman Highway. Associated ramps provide access to the Domain, Regatta Ground and Cenotaph areas.

Design is to be completed early in 1987-88 to enable calling of tenders for construction of the bridge in December 1987. The design of the sign gantry was commenced during the year.

BROOKER HIGHWAY

BERRIEDALE ROAD TO ABBOTSFIELD ROAD

Design

Plans for construction of a new southbound carriageway between Berriedale and the Jimbirm Street footbridge were prepared. The design of the Abbotsfield Pedestrian Underpass is also complete.

Construction

Fencing and drainage works began in June.

ACCESS TO DERWENT CENTRE

Planning

Alternative road layouts for direct access to the new Derwent Centre from the Brooker Highway at Wilkinsons Point were examined. The principal options considered included a grade separated interchange, a large roundabout and a major intersection with co-ordinated signals.

The interchange option, which also provides for a direct access to the Glenorchy City Centre Bypass in the future, was recommended as the only solution to give the required level of service in the long-term. In order to achieve the 1989 opening date for the Derwent Centre, a T-junction based on use of roads required for the ultimate scheme was adopted as the interim connection.

BROOKER AVENUE**DERWENT PARK ROAD****Design**

Design for the upgrading of the roundabout was completed.

Improvements will include a slip-lane for northbound traffic entering Brooker Avenue from Derwent Park Road West and a slip-lane from Brooker Avenue for traffic entering Derwent Park Road West.

Construction

Work began on the services associated with the improvements to the Derwent Park Road intersection. Expenditure amounted to \$0.088 m.

CHANNEL HIGHWAY**SNUG TO O'BRIENS HILL****Design**

Design of this 2.6 km section is complete except for the services relocation drawings. The design work on the Snug Creek Bridge has also been completed.

SNUG CREEK BRIDGE**Construction**

Work began on this single span, 14 m long bridge in November 1986 with approach earthworks and pile driving. Abutment construction began in April 1987 and completion was expected in August 1987.

Expenditure in 1986-87 was \$0.155 m.

O'BRIENS HILL TO KETTERING**Design**

An alignment has been chosen for this 5 km section and design has begun.

LAUNCESTON URBAN AREA**Planning**

The Launceston urban area has been the subject of two comprehensive transportation studies in 1967-68 and in 1976-77. In the period since 1977 significant progress has been achieved in the implementation of the elements comprising the recommended plan.

There have been some substantial changes, however, to the underlying assumptions of the 1976-77 study resulting in the emergence of some new issues and a change of emphasis on other issues. A new study has begun in co-operation with the local Councils, to develop a road network strategy for the Tamar Region as a whole, including the Launceston Urban Area. An important output of the Tamar Region Roads Study (TRRS) will be the establishment of a rational road construction priority for projects which are identified as appropriate to meet the short to medium term road transport needs. Completion of the study is expected early in 1988.

LAUNCESTON SOUTHERN OUTLET—URBAN SECTION**GLEN DHU CORRIDOR****Design**

Design was completed for this 1 km dual carriageway from the Glen Dhu Interchange to Bathurst Street. Landscaping plans are being prepared by Launceston City Council and landscaping will follow the completion of the roadworks.

Construction

The Department won the contract for this project with a tender price of \$3.6 m. Work began on 23 March 1987 and is due for completion in mid 1988. It involves the construction of a four lane roadway between the Glen Dhu Overpass and the intersection of Frankland and Wellington Streets, Launceston.

Expenditure amounted to \$0.885 m and the total cost to 30 June 1987 was \$8.206 m including acquisition of property.

REPLACEMENT OF BRICK SEWER, PERCEY STREET

Work began on 21 April 1987 and was due for completion in July. A substantial diversion pipeline was first constructed to maintain flow. Expenditure in 1986-87 was \$0.083 m.

KINGS MEADOWS CONNECTOR**Design**

The northern option route (1.6 km) was finally adopted after lengthy negotiations with the Launceston Roads Action Committee.

Launceston City Council is responsible for design of the segment in the vicinity of Hobart Road. Design of the remainder is being undertaken by the Department.

EAST TAMAR OUTLET**HOPE STREET SEWER OUTFALL****Construction**

Remedial works to the last 37 m of this outfall began in June. Completion is expected in December 1987. Expenditure in 1986-87 was \$0.050 m including acquisition of property.

MIDLAND HIGHWAY**YOUNGTOWN PEDESTRIAN UNDERPASS****Design**

The design work on the underpass structure was completed.

Construction

Work on this structure, replacing the old overpass which was demolished by an over-height vehicle, began in February. By 30 June 1987 the main barrel of this structure was virtually completed. Expenditure in 1986-87 was \$0.076 m.

RURAL ARTERIAL ROADS

SOUTH-EAST DISTRICT

ARTHUR HIGHWAY

MURDUNNA TO HAWKS HILL

Construction

This section of highway was completed with sealing of the Flinders Creek area rehabilitation works and paving of the 'Forestry Deviation' to Hawks Hill. Expenditure in 1986-87 amounted to \$0.348 m and the total cost to 30 June 1987 was \$1.708 m.

HAWKS HILL DEVIATION

Design

Design of the Hawks Hill deviation is approximately 75 per cent complete and plans have been issued as required, for construction, which is in progress.

Construction

This new road alignment follows the old coach road corridor. Earthworks and drainage continued throughout the year on a 2 km length and were 75 per cent complete. Due to adverse weather, the rate of construction had to be scaled down after May.

Expenditure in the financial year amounted to \$0.779 m and the total cost to 30 June 1987 was \$0.898 m.

EAGLEHAWK NECK TO MASONS POINT

Design

This 5.3 km section was designed by consultants.

Construction

The Department won the contract for reconstruction of this section and work on accommodation facilities commenced in June. Expenditure amounted to \$0.006 m.

MASONS POINT TO TARANNA

Design

Plans for this 4.1 km section are expected to be completed early in 1987-88. A number of routes were investigated, one following the existing corridor and other inland options which were finally rejected.

CHANNEL HIGHWAY

CYGNET TO HUONVILLE

Design

Plans for this 16.2 km section showing a reference line along an approximate design line have been issued for surveying purposes. Survey using the MOSS system was scheduled for completion early in 1987-88.

HUONVILLE BYPASS

Planning

A planning investigation to determine the most suitable alignment for a bypass of the built up area of Huonville and a flood prone section of the Channel Highway, is in progress. The residential area is expanding rapidly and an alignment to the east of the town connecting to the Channel Highway near Flood Road could be protected from future development as part of current amendments to the planning scheme.

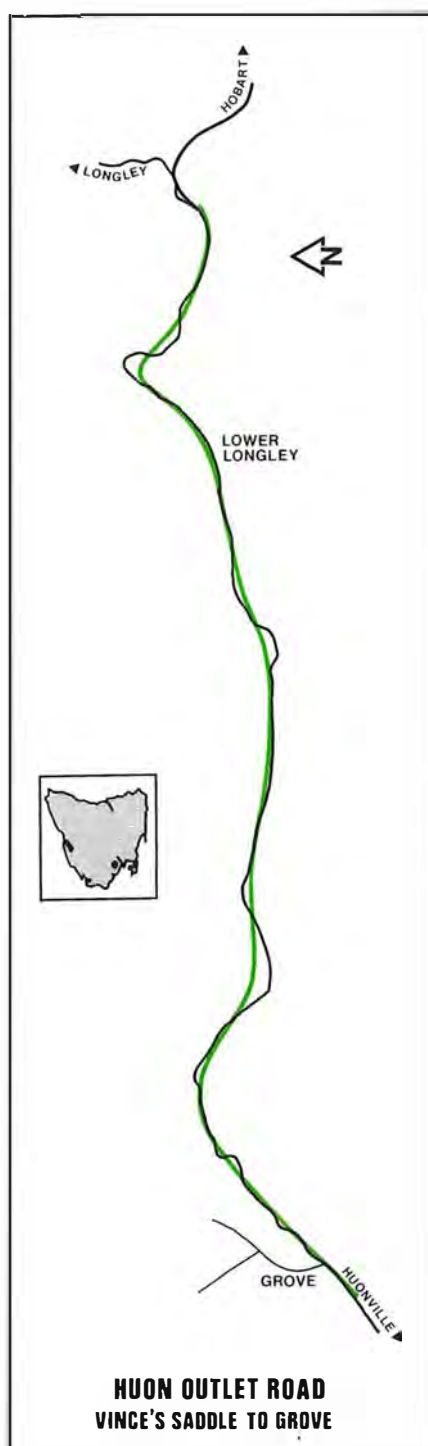
HUON HIGHWAY

VINCES SADDLE TO GROVE

Construction

The 2.5 km section of three and four lane highway from Vinces Saddle to Dip Road was sealed prior to December 1986 and linked the Huon Outlet to the previously constructed section from Dip Road to Grove. Extensive accommodation works were required as frontages on numerous properties were acquired for widening purposes.

Expenditure in 1986-87 amounted to \$0.951 m and the total cost to 30 June 1987 was \$4.685 m.



GROVE TO HUONVILLE**Design**

Drawings are complete and have been issued. The design of Prices Creek culvert has also been completed.

Construction

Work on the 2.5 km section to the Lollara Main Road junction involved service relocations, fencing and earthworks. About 0.8 km was extended full width to subbase level and had a gravel running surface.

Expenditure for the financial year amounted to \$0.471 m and the total cost to 30 June 1987 was \$0.572 m.

THROUGH FRANKLIN**Design**

Preliminary design was completed after approval to reconstruct through the town was received from the Department of the Environment and the National Trust of Australia.

THROUGH GEEVESTON**Construction**

The 1.1 km section from Arve Secondary Road junction to the second Kermadie River Bridge was reconstructed between September and April. Construction of kerb and guttering along with footpaths has vastly improved this town area. Expenditure amounted to \$0.669 m.

LAKE HIGHWAY**STEPPEES TO POATINA MAIN ROAD TURNOFF****Construction**

Due to funding limitations, no rehabilitation was attempted. Crushing of basalt from the Beehive Quarry at Great Lake was undertaken to provide pavement materials for the 1987-88 season. Expenditure amounted to \$0.202 m.

LYELL HIGHWAY**FENTON MAIN ROAD TO GREтна****Design**

Construction plans for this 1.13 km section of highway were issued to District. Minor deviations from the existing highway were approved by the Department of Environment.

Preliminary plans are being prepared for the upgrading of the highway through Gretna.

Hamilton Council's future sewerage scheme for Gretna will be taken into consideration. The design of the Belmont Rivulet Bridge has also been completed.

Construction

Apart from one minor section of excavation beside the existing highway, no other works were undertaken. Construction of Belmont Rivulet Bridge is expected to begin in July 1987. Roadworks should commence in late 1987. Expenditure in the financial year amounted to \$0.076 m.

GREтна TO GEARD'S BRIDGE**Construction**

The remaining section has now been completed on this 2.7 km length of road joining Gretna town boundary to the previous contract section to Geards Bridge. Sealing of this section was finished in January. Expenditure in 1986-87 amounted to \$1.116 m and the total cost to 30 June 1987 was \$1.669 m.

TASMAN HIGHWAY**FINGERPOST ROAD TO BLACK CHARLIES OPENING****Construction**

Construction of the 3.8 km deviation section was completed and opened to traffic in January 1987. The remaining 0.6 km along the highway including the Fingerpost Road junction will be completed in 1987-88, depending on funds available.

Expenditure for the financial year was \$0.883 m. The total cost to 30 June 1987 amounted to \$2.453 m.

BRUNY MAIN ROAD**Design**

Detailed design on the 21.4 km section from Lennon Main Road to Adventure Bay Road continued, with plans for construction being issued as required. Plans for 3.8 km were issued during 1986-87.

Construction

Construction has continued with 2 km north of The Neck being sealed and earthworks extending 3.5 km to the south end of Great Bay.

Expenditure for the financial year amounted to \$0.689 m and the total expenditure to 30 June 1987 was \$2.13 m.

COLEBROOK MAIN ROAD**RICHMOND BYPASS****Planning**

Agreement has been reached with concerned authorities on the location of a future Colebrook Main Road bypass of Richmond. Affected property owners have been interviewed and property survey arranged which will enable proclamation procedures to be undertaken to protect the route from development.

FENTON MAIN ROAD**WESTERWAY TO NATIONAL PARK****Construction**

'As is' reconstruction began on this section in March, with extensive drainage and minimum earthworks to achieve an improved pavement width within the corridor between the rail reserve and the Tyenna River. Mechanical stabilisation and a granular overlay were undertaken with a 0.9 km section primer sealed in May. Table drains on this section were sealed to minimise the ingress of water which in the past has caused deterioration of the pavement. Work will proceed in 1987-88 on the 2 km section to Belchers Siding and then follow on with the replacement of the two Bailey bridges over the Tyenna River.

Expenditure in the financial year amounted to \$0.356 m.

TYENNA RIVER BRIDGES NUMBERS 1571 AND 1581

To cater for the new Tasmanian legal loading of 41 tonnes gross, single span, 40.6 m long triple single reinforced and three span, 37 m long continuous double single Bailey bridges were erected on the 8 and 15 April 1987 over the existing timber bridges at a cost of \$0.074 m. These Bailey bridges will be dismantled and put into storage for future emergency use once new permanent bridges are built.

WESTERWAY BYPASS**Design**

The 2.57 km bypass is designed to reduce log truck traffic through Westerway.

Construction is programmed to follow the upgrading of the road to National Park.

NORTH-EAST DISTRICT**TASMAN HIGHWAY****LAUNCESTON TO SCOTTSDALE**

The length of classified road between Waverley and Scottsdale (Bridport Main Road turnoff) is 59.69 km. The road was sealed to a width of 4.9 m in 1940-41 and was generally maintained to the dimensions of that construction until 1982-83 when curve improvements to the value of \$0.670 m were undertaken by the then St Leonards Council in Waverley with considerable financial assistance from the DMR. Reconstruction of the next section of this highway from Waverley to Nunamara was then carried out by the DMR's day labour force and completed in 1985-86 at a cost of \$3.65 m. The following projects were undertaken in 1986-87.

The Sideling

Works carried out this financial year included the widening of 5 sharp corners of this section of highway, the asphalt surfacing of these corners plus the 13 sections reconstructed in the 1985-86 financial year.

Expenditure for 1986-87 financial year was \$0.099 m.

Scottsdale, King Street Rehabilitation

Following reconstruction of King Street, Scottsdale in 1985-86 financial year, the final asphalt wearing coarse was laid in February 1987 to complete the project.

Expenditure for 1986-87 financial year was \$0.46 m.

SCOTTSDALE TO SCAMANDER**RINGAROOMA MAIN ROAD TO BRANXHOLM****Design**

Design was completed for this 4 km section.

The new bridge proposed at Legerwood Creek will also span the railway line thus eliminating the present rail level crossing. Design work has been completed.

Construction

Roadworks commenced in October 1986 with initial earthworks being carried out and the embankment for the Legerwood Creek Bridge constructed.

Expenditure in 1986-87 amounted to \$0.326 m.

LEGERWOOD RIVULET BRIDGE

Manufacture of the precast beams for this three span, 81 m long bridge commenced in December 1986 at nearby Branhholm.

At the end of the year 7 out of 12 beams had been manufactured and piling had started on site.

Expenditure in 1986-87 amounted to \$0.336 m.

Because the existing timber bridge could not cater for the new Tasmanian legal loading of 41 tonnes gross, a single span temporary Bailey bridge was erected in April 1987 over the existing bridge at a cost of \$0.019 m. This Bailey bridge will be dismantled and put into storage for future emergency use on completion of the new bridge.

BRANXHOLM TO DERBY

Construction of this 6.0 km section of highway was completed by June 1987. Expenditure in 1986-87 amounted to \$0.640 m.

NORTH GEORGE RIVER BRIDGE

This two span, 38 m long bridge was completed in June 1987. Expenditure in 1986-87 amounted to \$0.363 m and total expenditure to the 30 June 1987 was \$0.505 m.

SCAMANDER TO SWANSEA**SCAMANDER RIVER BRIDGE****Design**

Design was finalised for the alignment of the new bridge and road approaches which will eliminate the present substandard approaches to the existing one lane bridge.

Construction

This five span, 150 m long bridge was started in May 1987.

At the end of the year, test piles had been driven and construction of a temporary access bridge and causeway had started from the northern end.

Completion of the total project is expected in December 1988.

Expenditure in 1986-87 amounted to \$0.197 m.

ELEPHANT PASS SAFETY IMPROVEMENTS**Construction**

Several corners were widened by cutting into the rock wall face, and other curves were backfilled and widened with the excavated material to improve sight distance and safety. Hotmix overlays completed the widened sections. Approximately 1 km of steel galvanised post and double wire safety fence was also completed. Expenditure amounted to \$0.149 m.

FALMOUTH TO CHAIN OF LAGOONS LINK ROAD**Design**

Design of the central 17 km of the link road was completed and issued for construction prior to 1986-87. The design of culverts was also completed. Investigation is proceeding into the route to be adopted for the new road from the Tasman Highway at Falmouth to the Four Mile Creek Road, a distance of 3.5 km.

The re-aligning of Hughes Road from its junction with Tasman Highway at Chain of Lagoons, for a distance of 3 km is also under investigation.

The total length of this link road is 23.5 km.

LITTLE BEACH CREEK CULVERT**Construction**

This triple cell reinforced concrete box culvert was started in October 1986 and virtually completed by the 30 June 1987.

Expenditure in 1986-87 amounted to \$0.222 m.

Roadworks

This is a continuing project being carried out by the DMR's day labour force. This financial year work was concentrated between Old Billie Creek and the commencement of Hughes Road at the southern end of the link section.

Progress to date included substantial completion of all drainage and earthworks for a distance of 12 km, together with sufficient sub-base gravel to provide a suitable surface.

An amount of \$1.897 m was expended in the 1986-87 financial year. This brings the total cost of this project to 30 June 1987 to \$5.393 m.

WEST TAMAR HIGHWAY**EXETER BYPASS****Planning**

Three alignments for a proposed future bypass of Exeter with connections to the existing main roads have been investigated. A report has been completed recommending that consideration be given to the inclusion of a longer term western bypass in the planning scheme. This also bypasses the residential communities of Blackwall and Lanena.

MUDDY CREEK TO LANENA**Design**

Design is now complete for a 1 km extension of the climbing lanes to Bradys Lookout.

Design for the relocation of the Bradys Look out car park is also complete.

CORMISTON CREEK TO LEGANA**Construction**

Following the installation of wick drains for the Southbound carriageway over the mud flats between 7LA and Danbury Park Drive South, additional fill and surcharging was carried out.

Paving and sealing has been completed between Bridgenorth Road and Bindaree Road. This work also included installation of stormwater pipes, kerb and guttering and footpaths.

Total costs to 30 June 1987 amounted to \$2.937 m and costs for the financial year were \$0.223 m.

LEGANA TO MUDDY CREEK**Bridgework—Muddy Creek Culvert**

Construction of this twin cell insitu concrete box culvert was completed during the year. Expenditure in 1986-87 amounted to \$0.044 m and the total cost to 30 June 1987 was \$0.104 m.

Roadworks

Earthworks have been commenced down Muddy Creek Hill and in the vicinity of Rosevears Drive.

Costs for the financial year amounted to \$0.722 m and the total cost to 30 June 1987 was \$1.391 m.

BRIDPORT MAIN ROAD**SCOTTSDALE TO BRIDPORT, PAVEMENT REHABILITATION****Construction**

A length of 2.3 km being 6 m in width was completed with an asphaltic concrete overlay. Expenditure for the financial year was \$0.150 m.

ESK MAIN ROAD**DEVIATION AT 'ORMLEY'****Design**

Preliminary design of a possible 8.5 km deviation was completed.

KELSO MAIN ROAD**KELSO CREEK BRIDGE****Construction**

Work on this single cell reinforced concrete culvert, to replace the old single lane bridge, was started in November 1986 and completed in February 1987.

Expenditure in 1986-87 amounted to \$0.112 m.



*West Tamar Highway
Muddy Creek Culvert*



*Arthur Highway
Hawk's Hill Deviation*



Departments 35-year-old Asphalt Mixing Plant



Tasman Highway/Davey Street Extension



*Official Opening
Rebecca Road to Couta Rocks*



Lake Leake Main Road Opening

LAKE LEAKE MAIN ROAD**Construction**

The Glamorgan and Campbell Town Councils completed the reconstruction and seal of the sections at either end of the road and the DMR day labour force completed the remaining pavement works and the seal of 13 km of road in the vicinity of the Ladies Mile Marsh and East of the 'M' Road. The road was officially opened on 31 March 1987.

Not all outstanding works from the previous year were completed, due to inclement weather. These and other minor works will be undertaken in 1987-88.

Expenditure by the DMR day labour force for 1986-87 was \$0.950 m. Council expenditure was \$0.265 m and total expenditure to 30 June 1987 was \$8.364 m.

LILYDALE MAIN ROAD**UNDERWOOD DEVIATION****Design**

Design was completed for this 4 km project, including the design of the Rocky Creek culverts.

Construction

Roadworks re-commenced on this project following winter suspension of works in October 1986 with pavement construction and further major pavement drainage works. Roadworks were substantially completed by 30 June 1987.

The 3.9 km section of road will replace a narrow section of road and reduce the travel time over this section of road by 50 per cent.

Total expenditure to 30 June 1987 amounted to \$2.428 m and costs for the financial year were \$0.823 m.

UNDERWOOD DEVIATION TO LILYDALE**Design**

Design was completed towards the end of the financial year.

Tenders for construction are expected to be called during 1987-88. Completion of this project will finalise the reconstruction of the Lilydale Main Road which is being funded under the Australian Bicentennial Road Development programme.

LILYDALE TO SCOTTSDALE—GOLCONDA ROAD ALTERNATIVE FOR TASMAN HIGHWAY**Planning**

Broad route location planning has been undertaken to determine required upgrading of this link to highway standard as an alternative to the Tasman Highway between Launceston and Scottsdale.

POATINA MAIN ROAD**CRESSY TO BRUMBYS CREEK****Construction**

Rehabilitation of this 2 km section was carried out with a granular overlay and winter sealed at a total cost of \$0.329 m.

PIPERS RIVER SECONDARY ROAD**HOGANS BROOK BRIDGE****Construction**

This twin cell reinforced concrete culvert, which replaces an old timber bridge, was started in September 1986 and completed in November 1986.

Expenditure in 1986-87 amounted to \$0.099 m.

NORTH-WEST DISTRICT

BASS HIGHWAY

REEVE STREET CONNECTOR, BURNIE

Planning

Planning for a future arterial link between Marine Terrace and Upper Mount Street has continued. A preliminary Materials and Research report confirms that much of the corridor set aside on the alignment along Alexanders Creek (extension of Reeve Street) is subject to serious land slip. Preliminary design has been undertaken following consultation with Council and affected land owners, including A.P.P.M.

Perceived deficiencies and high construction costs for the Reeve Street Connector have prompted investigation of an alternative scheme which would connect Ridgley Main Road and Guildford to Hampshire Link Road with Old Surrey Road near the Bass Highway. To relieve local commuter traffic congestion in Mount Street, a further link near Whitford Street to Brooklyn Street is under consideration. It is envisaged that subject to a favourable geotechnical report the alternatives to the Reeve Street Connector would result in a considerable cost saving.

BURNIE TO WYNYARD

Planning

An investigation has begun into the future upgrading of this section of the Bass Highway to a four lane facility. The favoured route follows the existing highway and would require some relocation of the railway. Retaining walls would be used to minimise acquisition from frontage properties, relocation of the railway and the impact on the environmentally sensitive foreshore.

Preliminary data has been obtained to enable a comparison of optional routes through Cooe. The principal options under investigation are a foreshore route bypass of the main street, or widening the existing highway to four lanes with provision for parking on both sides by acquisition of commercial frontages.

A consultant was appointed to study the case for extension of the National Highway classification, which currently applies to the Bass Highway between Launceston and Burnie, to include the Burnie to Wynyard section.

CASSIDYS BOG TO ROCKY CAPE TURNOFF (SISTERS HILLS)

Planning

In recent years there have been some serious traffic accidents along this stretch of the highway. This has prompted requests to the Department to examine the possibility of an alternative route. In response, a locality planning exercise was undertaken to determine whether such a future route would be feasible.

An alternative alignment between the existing highway and the National Park was determined. The new route, of some 10 km in length, would have a serious impact on farmland in the Sisters Creek region. The alignment would be superior to that of the existing highway but construction would be expensive and no staging possibilities are available.

Construction

A 0.97 km section of the existing road west of Watts Road has been upgraded by widening and correcting pavement shape deficiencies.

SMITHTON TO WILTSHIRE JUNCTION

Design

The final design for the 2 km link extending from west of Irishtown Main Road to the beginning of the Smithton Bypass was completed. Included was an improvement to the junction with Irishtown Main Road.

Construction

The new highway was sealed to Smithton, completing the entire section from Wiltshire Junction to Smithton, except for provision of a second seal coat and contrasting shoulder seal in some areas. Expenditure during the year was \$0.931 m and the total cost to 30 June 1987 was \$5.033 m.

SMITHTON BYPASS**Design**

The design for this 2 km project including the T-junction at the eastern end and the roundabout at the western end was completed.

Construction

Construction began in September 1986 and some 500 m at the western end, including the Bass Highway junction, were completed. The remainder of the bypass is approximately 33 per cent completed. Expenditure during the year was \$0.386 m.

MT HICKS SECONDARY ROAD JUNCTION

The roundabout at this intersection was completed in October 1986. Expenditure during the year was \$0.262 m and the total cost to 30 June 1987 amounted to \$0.413 m.

LAKE HIGHWAY**GOLDEN VALLEY TO BREONA****Construction**

A further 1.2 km of road was upgraded and sealed during the year, bringing the total length of sealed road from the Golden Valley Junction to 8.8 km. Work also continued south on clearing and earthworks. Expenditure during the year was \$0.782 m and the total cost to 30 June 1987 amounted to \$2.410 m.

LYELL HIGHWAY DEVIATION AT H.E.C. KING RIVER POWER DEVELOPMENT**Design**

A deviation of the Lyell Highway has been planned to cross Lake Burbury which will be formed as part of the King River Power Development. The major bridge crossing was designed by the Department and the Hydro-Electric Commission designed the roadworks. The 325 m long bridge will have interior spans of 50 m and be supported on piers up to 46 m in height. Extensive design work to ensure terrain stability at the bridge site, was carried out. Construction of the bridge will be scheduled so that it is completed just prior to commencement of storage of water.

MURCHISON HIGHWAY**CURVES SOUTH OF HENRIETTA****Design**

Design was completed for 1.2 km of road to an improved alignment both horizontally and vertically.

DEVONPORT MAIN ROAD**HORSEHEAD CREEK TO VICTORIA BRIDGE****Construction**

After lengthy delays due to property acquisition problems, work resumed in April and at the end of the year traffic was diverted onto the new work. Sealing was to be completed in 1987-88. Expenditure during the year was \$0.138 m.

TURNERS LANE TO MERSEY MAIN ROAD**Construction**

Devonport Council has completed reconstruction works to plans approved by the Department. Council was paid \$0.050 m for this work.

FORTH MAIN ROAD**CORNER EAST OF BRADDON'S LOOK-OUT ROAD****Design**

Construction plans for realignment and sight distance improvements were completed and issued to District.

PINE MAIN ROAD**Construction**

A 500 m long section was upgraded and sealed at a cost of \$0.238 m.

SHEFFIELD MAIN ROAD**THROUGH RAILTON****Design**

Some amendments to design were carried out and property matters resolved.

Construction

Approximately 2 km of road through the Railton township were reconstructed during the year. A further 400 m long section, including the Whitewater Creek culvert, remains to be completed in the new financial year. Expenditure during the year was \$1.077 m and the total cost to 30 June 1987 was \$1.411 m.

RAILTON TO LOWES CREEK**Design**

Design was undertaken by Consultants to improve a tortuous alignment extending over 2 km.

NOOK ROAD JUNCTION**Design**

Design to improve safety at the junction was nearing completion.

TARLETON ROAD JUNCTION**Design**

Investigations of a realignment to improve this junction are in progress.

WARATAH MAIN ROAD**HEAZLEWOOD RIVER BRIDGE APPROACHES****Design**

The need to replace the existing structure provided an opportunity to improve the alignment of the road approaches. The design of the bridge was also completed.

WEST-COAST LINK ROADS**GUILDFORD TO HAMPSHIRE LINK ROAD****HELLYER RIVER BRIDGE****Construction**

This two span, 66 m long bridge was virtually completed at the 30 June 1987.

Expenditure in 1986-87 amounted to \$0.240 m and the total cost to 30 June 1987 was \$1.091 m.

WEY RIVER BRIDGE

Work continued on this twin cell reinforced concrete box culvert during the year. At 30 June 1987 all of the base slab and 70 per cent of the walls had been completed.

Expenditure in 1986-87 amounted to \$0.158 m and the total cost to 30 June 1987 was \$0.250 m.

Roadworks

The first 3 km on the northern end have now been completed and sealed and earthworks and drainage have been completed over a further 13 km of the 28.7 km link.

Clearing and stripping have been completed over the full length of the road.

Expenditure during the year on road construction was \$1.923 m.

The total expenditure on this project in the financial year was \$2.327 m. The total cost to 30 June 1987 amounted to \$6.920 m.

QUE RIVER TO LEARYS CORNER LINK ROAD**Design**

Minor design amendments and corrections have been undertaken on plans produced by consultants for this 27 km project.

Construction

Earthworks, drainage and first layer sub-base are substantially complete for the first 18 km west of Learys Corner. Clearing has been completed over the full length of the road. One box culvert crossing of the Southwell River has been completed.

Expenditure during the year was \$2.390 m and the total cost to 30 June 1987 amounted to \$7.342 m.

SMITHTON TO ZEEHAN CORRIDOR**MARRAWAH TO HEEMSKIRK ROAD****Design**

Road design has been completed from Blackwater Road to a point 5 km south of Balfour.

Continuing work on locating a site for the proposed bridge over the Pieman River at Corinna has been the major activity.

ARTHUR RIVER ROAD

Minor works are to be carried out on an 'as is' basis followed by sealing. Design involvement will be limited to advice on works to produce consistent standards as part of the Smithton to Zeehan Corridor.

RACHAELS CREEK CULVERT**Construction**

This twin cell reinforced concrete culvert was started in January 1987 and completed by March 1987.

Expenditure in 1986-87 amounted to \$0.075 m.

REBECCA ROAD TO COUTA ROCKS

This 8.2 km long section was completed with the exception of some finishing work and opened to the public by the Premier on 19 June 1987. Final pavement work will be undertaken in 1987-88. Expenditure for the year was \$1.811 m.

BLACKWATER ROAD TO BALFOUR

Very little work was carried out on this section due to the concentration of funds and activity on the Rebecca Road to Couta Rocks section. Work will resume in the new financial year. Expenditure for the year was \$0.102 m.

Expenditure during the financial year on the whole project amounted to \$2.003 m and the total cost to 30 June 1987 was \$3.731 m.

UNCLASSIFIED ARTERIAL ROADS

(Council Controlled Roads)

SOUTH-EAST DISTRICT**HOBART CITY COUNCIL****BURNETT STREET WIDENING**

This work was undertaken by Council with a dollar for dollar subsidy from the DMR. Widening and reconstruction were completed between Argyle and Murray Streets with associated works at three intersections. Progressive contributions to Council amounted to \$0.302 m to 30 June 1987.

MUNICIPALITY OF NEW NORFOLK**GLENORA ROAD**

Since 1978-79 the DMR has provided grants to Council to assist in upgrading this road, which is a Council responsibility.

A grant of \$0.070 m was made in 1986-87 bringing the total assistance for this road to \$0.534 m.

LOCAL ROADS**SOUTH-EAST DISTRICT****TEA TREE SECONDARY ROAD****Design**

Investigations were begun for improvements to the road alignment in the area of the Ford Road junction.

Construction

Following the takeover of Tea Tree Road from the Brighton Municipality, 'as is' reconstruction was undertaken along several locations on this road. A 1.2 km length west of Rekuna was sealed in June after lime stabilisation of the existing pavement and the addition of a granular overlay. Drainage, fencing and widening continued and west of Tea Tree an 0.8 km trial section of roller compacted concrete overlay was undertaken in April. A nominal 150 mm thick layer of 7 m wide cement modified aggregate was placed by a paving machine. As the material is similar to a concrete road, no bitumen seal coat was required. The long-term suitability of this type of construction will be evaluated by closely monitoring its performance on this road.

Expenditure in the financial year amounted to \$0.291 m.

HASTINGS CAVES TOURIST ROAD**LUNE RIVER ROAD TO THERMAL POOL****Design**

Preliminary design of this 3.4 km section has been approved in principle and final design is about to begin.

NUGENT MAIN ROAD**Construction**

Curve improvements were commenced during the financial year and an amount of \$0.081 m was expended on this work.

NORTH-EAST DISTRICT**COLES BAY TOURIST ROAD****Design**

A further 5 km section of design was completed.

Construction

Due to a reduction in funding, activity was curtailed in December 1986. A further 3 km were sealed, bringing the total length completed to 15 km. Earthworks for a further 3 km were completed.

The expenditure in 1986-87 was \$0.746 m bringing the total expenditure since 1982 to \$2.933 m.

NORTH-WEST DISTRICT**CRADLE MOUNTAIN TOURIST ROAD****Construction***Cethana Turnoff to Learys Corner*

Sealing of a 4.5 km section was completed and a further 3 km section was completed to sub-base level.

In the National Park

Work began in May on widening and improving the road in the National Park with the construction of new culverts.

Expenditure for the financial year on the Cradle Mountain Tourist Road was \$0.854 m and the total cost to 30 June 1987 was \$3.862 m.

PEGARAH SECONDARY ROAD**Construction**

Stripping to verges was completed on a 3 km section. Pavement widening and general strengthening to sub-base level were done on a 2 km section. Base course material was placed on the same 2 km section. Construction is being undertaken on behalf of the DMR by King Island Council. Expenditure to 30 June 1987 was \$0.093 m.

UNCLASSIFIED LOCAL ROADS**MAJOR CONSTRUCTION PROJECTS****SOUTH-EAST DISTRICT****FLAGSTAFF GULLY LINK ROAD****Construction**

Major construction work on this 1.76 km link road was completed and primer sealed in 1985-86. In 1986-87 accommodation works including construction of an access road to the Sheltered Workshops were undertaken. The final seal coat will be deferred until the Mornington Interchange is nearing operational status.

This Link Road forms a leg of the Mornington Interchange which is associated with the Bellerive Bypass. The Flagstaff Gully Link Road was a proposal of the Derwent Region Transportation Study report. Design was undertaken by the Clarence Council.

Expenditure for the financial year amounted to \$0.118 m and the total cost to 30 June 1987 was \$1.656 m.

GLENORCHY CITY CENTRE BYPASS—STAGE 1**Construction**

This project involved the construction of a 2 lane access road extending from Main Road near Chapel Street, passing east of the Glenorchy shopping centre to Elwick Road. The length of the bypass is approximately 0.9 km.

Roadworks by the Glenorchy City Council continued in 1986-87 and an amount of \$0.310 m was expended.

This two span, 19 m long bridge over Humphrey Rivulet was completed by the DMR in September. Expenditure in 1986-87 amounted to \$0.138 m and the total cost to 30 June 1987 was \$0.238 m.

The total cost of this project to 30 June 1987 was \$1.326 m including the acquisition of property.

JORDAN RIVER BRIDGE AT BRIGHTON

Construction

This eight span, 103 m long bridge was opened in July 1986.

The superstructure consists of pretensioned concrete beams with insitu concrete topping and 50 mm thick asphalt surface. The total width of 11.1 m includes a 2 m footpath. The substructure consists of reinforced concrete abutments and the seven piers each consist of 4 circular columns with crosshead supported on a single spread footing.

Expenditure in 1986-87 amounted to \$0.164 m and total cost to 30 June 1987 was \$0.978 m.

LUNE RIVER BRIDGE

Design

During the year design of the Lune River Bridge was completed.

Construction

Work began on this four span, 92 m long bridge on the 23 February. By the end of the year, piling was well advanced and the off-site manufacture of the prestressed concrete beam segments had begun. Construction of the cofferdam around pier 1 began in June.

Expenditure in 1986-87 amounted to \$0.314 m.

SAFETY COVE ROAD BYPASS OF PORT ARTHUR

A new route bypassing Port Arthur was constructed by the DMR's day labour for the Department of Lands, Parks and Wildlife, at a cost to that Department of \$0.558 m to 30 June 1987.

NORTH-EAST DISTRICT

PORTERS BRIDGE ROAD—BRIDGE APPROACHES

Design

Preliminary design for a new bridge location with significantly improved alignment for the road approaches has been approved in principle. Construction plans are being finalised. The bridge is on the boundary between Deloraine and Westbury Municipalities.

WESTWOOD BRIDGE

The strengthening of the superstructure of this historic bridge was a significant project, completed in 1986-87.

ROAD CONSTRUCTION AND MAINTENANCE DIVISION

ROAD MAINTENANCE

Expenditure figures for the financial year 1986-87 for each district are summarised as follows:—

	<i>South-East</i>	<i>North-East</i>	<i>North-West</i>	<i>Total</i>
	\$m	\$m	\$m	\$m
Routine Maintenance.....	3.282	2.571	2.966	8.819
Reseals and Overlays	0.744	0.962	0.867	2.573
TOTAL	4.026	3.533	3.833	11.392

Routine road maintenance continued at a satisfactory level throughout the State in 1986-87.

Rehabilitation and strengthening works were undertaken at a number of locations which were of direct assistance to the maintenance organisation. The sites selected had been identified previously as high cost maintenance areas due mainly to the incidence of heavy vehicle usage and included—

Midland Highway—North of Bagdad (0.6 km)

Lyell Highway—South of Hamilton (preparatory work on Clyde Hill)

Bridport Main Road—Bridport End (2.3 km)

Poatina Main Road—Cressy to Brumbies Creek (2.0 km)

Frankford Main Road—Commencing 10.79 km west of Exeter (5.3 km).

High axle loadings continue to present problems for maintenance, especially with the raising of the vehicle load limit from 38 to 41 tonnes in December 1986. As a direct result of increasing heavy haulage, the Waratah Main Road remains a source of concern and requires extensive strengthening. However, the effects of heavy vehicles on the road network state-wide have been recognised and additional funds are expected to be available in 1986-87 for pavement rehabilitation.

The 1986-87 sealing programme was seriously curtailed due to bitumen production and supply problems at the Hobart refinery during the peak of the sealing season. The bitumen shortage and subsequent seasonal conditions unsuitable for sealing works resulted in reseals to the value of \$0.4 m being omitted from the programme.

Two new bitumen sprayers were purchased during the year to replace the old 2 500 litre non circulating units. These state of the art recirculating machines of 6 000 litre capacity and computer control were allocated to the sealing gangs in North East and North West Districts. The increased capacity, efficiency, and modern features of the machines enhanced the sealing operations in those Districts during the last season. The benefits of the considerable investment (\$0.13 m each) will be reflected in increased output and will lower unit rates for sealing works.

Reappraisal of the Department's three line marking machines and comparison with commercially available units was undertaken in 1986-87. As a result, a new machine will be built by the Department, modelled on the existing type and incorporating a number of modifications determined by discussion with the linemarking gangs.

A tractor mounted edge break patching attachment for placing asphalt has been developed in North-East District and initial trials have produced promising results.

The North-West District's 1986-87 sealing programme included sealing work for the Hydro-Electric Commission in the West Coast region to the value of \$583 000. The new sealing works included a prime and seal on 9.80 km of the Heemskirk Road and a total of 16.60 km of prime and two-coat seal on roads associated with the King River and Anthony Power Schemes.

LANDSCAPING

MIDLAND HIGHWAY

OATLANDS BYPASS

Due to poor quality planting and after care by the Contractor, significant numbers of trees and shrubs have had to be replaced by the Department's Day Labour force, South-East District.

LAUNCESTON SOUTHERN OUTLET—STRATHROY TO BREADALBANE

Landscape plans have been modified to include a greater number of Northern hemisphere trees, whilst Eucalypts have been deleted from the eastern side of the road reservation.

BASS HIGHWAY

PROSPECT BYPASS

Hydroseeding of cut batters has produced very pleasing results.

BURNIE EXPRESSWAY STAGE B

Landscaping involving 4 800 plants from View Road Overpass to Oakleigh Crossing has been completed. Planting in the concrete cribwall has been delayed due to ivy geranium being temporarily unavailable.

DON TO FORTH

Detailed landscape design has been completed. Some 15 000 plants are to be planted in the Spring.

URBAN ARTERIAL ROADS

HOBART SOUTHERN OUTLET

Landscaping of Stage 1 involving extensive hydroseeding of native shrubs and the planting of 1 214 advanced trees and ferns has been completed.

PLANNING AND TRAFFIC DIVISION

ENVIRONMENTAL STUDIES

Preliminary environmental investigations are undertaken for a proportion of the road projects of the Department and a number of these subsequently are formally examined by the Tasmanian Department of the Environment.

The Federal Government has continued to rely upon the State Department of the Environment to ensure that its own environmental requirements are satisfied. On some projects, however, it is not practical to undertake all the investigations required to fully assess the environmental issues.

On Federally funded projects, the Australian Heritage Commission Act 1975 applies and the Department consults the Commission when roadworks are proposed on or near places on the Register of the National Estate.

The contracting of specialist studies, in botany and archaeology for example, continues to require considerable administrative effort and less time is consequently available for 'in-house' investigation of more routine road projects.

Specific work undertaken during the year included:—

1. Briefing and shared supervision of the Consultant for the archaeological investigation of the Davey Street Extension to the Tasman Highway. Further details of the project are given below.
2. Briefing, selection and preliminary supervision of the consultant for the Landscape Design for the Hobart Southern Outlet Road.

3. Participation as a member of the NAASRA Working Group on Road Traffic Noise which reported on 'The Implications of Mandatory Traffic Noise Levels'.
4. Briefing and supervision of the consultant archaeologist responsible for the excavation of middens between Eaglehawk Neck and Masons Point on the Arthur Highway.
5. A series of noise predictions has been made for engineers for particular projects and a submission was written to the Department of the Environment advising against a proposed downward revision of the present advisory residential standard.

ARCHAEOLOGICAL INVESTIGATIONS FOR THE DAVEY ST EXTENSION

The major environmental project this year has been the archaeological investigation of the Davey Street Extension to the Tasman Highway. The roadworks traverse one of the oldest most historically significant areas in Australia.

Three main areas, the Hobart Gas Co. site, the Jones & Co. site and the Hunter Street site were excavated and recorded before and during construction. All the sites were archaeologically significant and independently each would have justified a major investigation before being disturbed or covered over by the roadworks.

Between December 1986 and February 1987, scientific recording of archaeological remains affected by the extension of Davey Street was undertaken. A consultant archaeologist and team of assistants uncovered the foundations and remains of an old soap and candle factory, a fruit warehouse, old wharves, and the original course of the Hobart Rivulet. The excavations also revealed part of the circular base of a gasometer, which was constructed after the disastrous Wapping fire of 1890 destroyed many of the warehouses, tenements and other buildings on the site at the time.

On the old Gasworks site, the remains of nineteenth century industrial technology were recorded with some difficulty, due in part to the thick oily residue which oozed from pits disturbed during road construction.

HUNTER ISLAND CAUSEWAY

Construction of a stormwater main on the Hobart City Council section of the works revealed the presence of the Hunter Island Causeway. The Causeway was begun during the term of office of Governor Sorell (1817-1824) and was described soon after by G. T. Lloyd as 'a substantial causeway of masonry, wide enough for two carts to pass, and a good path for foot passengers.'

The excavation and recording of the causeway adjacent to the roadworks was also undertaken and the possibility of retaining it on permanent display is under consideration.

Excavations and investigations for the Davey Street Extension are likely to have been the most extensive and significant ever undertaken by a State Road Authority in Australia. While the physical investigations have been concluded, the analysis of the artefacts found and the completion of research and a report will be required to fully document the project.

It is considered that the work undertaken will more than adequately discharge the Department's obligation to the community and will satisfy the requirements of the Australian Heritage Commission.

TRAFFIC SERVICES

ROAD DATA BASE

The Road Data Base is continually being updated to meet Departmental needs. At this stage, however, some items on Council Roads are nine years out of date. It will be necessary shortly to make a decision on whether to keep all data and update it or alternatively keep only that data necessary to the Department's needs.

Preliminary work has begun to produce output in a form more readable by the end users. It is anticipated that strip maps of the State Road Network will be produced next year.

One complication has been the need to change computers during the year. The existing eight bit computer was no longer being supported by any supplier. As a consequence it was necessary to change to a more modern design 16 bit computer. This necessitated the rewriting of all software. This task has been largely completed.

TRAFFIC STUDIES

Several major traffic studies were undertaken during the year. These included origin and destination surveys in the Brighton Municipality and the Burnie Municipality, in addition to the survey of the violation of white barrier lines. Casual employees were engaged to assist with all three surveys.

The origin destination survey in the Brighton area was undertaken to analyse the traffic distribution of various alternative road improvements for the National Highway between Brighton and Bagdad. A new package programme called Micro Trips enabled journey trips to be redistributed on alternative road networks and the results plotted out. A similar project was carried out in Burnie. This exercise was undertaken to determine the traffic volumes that would use alternative roads to Mount Street in Burnie, if constructed.

TRAFFIC COUNTING

Traffic counting is undergoing a major change in equipment and analysis. With the purchase of the Culway system it has been necessary to alter the counting procedure to take account of the additional data being collected. In addition, the manual recording counters are being systematically replaced with automatic electronic counters. The data from the new counter is retrieved and transcribed to computer by disk medium. This should result in a considerable increase in efficiency.

To complement the data collected by the Culway system, a new machine has been purchased from A.R.R.B. This machine has the same electronic architecture as the Culway system and records the same details, other than vehicle weight. It is proposed that more machines will be purchased to enable the more reliable data relating to vehicle classification and equivalent standard axle loadings on the pavement to be expanded to all classified roads. This is a long-term aim.

FRONTAGER DEVELOPMENT ADVICE

In accordance with Government policy both the Commissioner for Town and Country Planning and this Department are to include in Statutory Planning Schemes, requirements and guidelines to enable assessment of the effect of subdivisions and development on State Roads to be dealt with at the local level.

It is necessary to provide comment and advice on provisions which it is considered should be included in Statutory Schemes to give protection to the State road network. This requires an understanding of the production and assessment of planning schemes, planning legislation and the influence which they can have on the manner and degree in which land along State road corridors is used.

Legislation now requires all local authorities to have planning schemes or interim orders, the latter being effective for a maximum of three years. Many draft planning schemes are in preparation and all will require comment. Each scheme has to be revised five yearly and, in the intervening period, a continual stream of proposed planning scheme amendments require comment or advice.

Planning schemes must ensure flexibility for Councils and certainty for landowners and developers. While schemes must permit discretion it is necessary that those documents clearly specify not only where such development along State roads is appropriate but also where it is inadvisable.

The following routine queries were handled during the year:—

Subdivision and Development	351
Public Service Installations (To October 1986)	51
Proclamations and Classifications (To October 1986)	6
Limited Access Matters (To October 1986)	68
Planning Schemes	63
Property and Access Inquiries (To October 1986)	310
Crown Land Transactions (To October 1986)	39
Miscellaneous	14

ROAD DESIGN DIVISION

COMPUTER DESIGN

The Department's submission to proceed with the installation of the road design package produced by Modelling Systems known as 'MOSS' was approved by the State Computer Policy Committee.



Hobart Southern Outlet Duplication



Hobart Southern Outlet Duplication



*Launceston Southern Outlet
Roundabout—Evandale Main Road*



Prospect Bypass



*Bass Highway
Forth River to Ulverstone Bypass*

In February 1987 four colour graphics workstations with additional standard terminal access were installed in Head Office and the Districts. They were linked with the Department's Prime computer which would support a printer, a plotter and the terminal access. The system is capable of expansion by the addition of workstations.

Individually the workstations have performed satisfactorily but problems have been experienced with the communications between the Prime and the workstations. This problem has not yet been resolved to the Department's satisfaction and negotiations are continuing with the computer hardware suppliers.

Despite the problems good progress has been made in training surveying, drafting and engineering staff in the use of the new system.

DEPARTMENTAL DISPLAYS AND EXHIBITIONS

DISPLAYS

Displays were assembled to publicize the following projects:—

Hobart Southern Outlet, shown at Parliament House, State Offices, 10 Murray Street, Hobart, and Kingborough Municipal Offices.

Bass Highway—Pateena Road to Westbury Bypass—at Westbury Council Chambers.

Bass Highway—Westbury Bypass to Deloraine—at Westbury and Deloraine Council Chambers.

EXHIBITIONS AT AGRICULTURAL SHOWS

The Department was again represented at both the Royal Hobart and Launceston Shows.

The Hobart Southern Outlet and the Davey Street/Tasman Highway extensions were highlighted.

A small tracked excavator featured as an integral part of the display—an innovation this year. Stickers promoting the theme 'Building Better Roads' were popular with younger show patrons.

A road construction method was also illustrated.

ROAD DIRECTION SIGNING

The signing of the State Road Network has been completed, apart from a few isolated locations within the Launceston and Hobart urban areas. Some of these locations have been or will be affected by roadworks and consequently signing has been deferred. 'Overtaking Lane X km Ahead' signs were introduced in the South-East District, ultimately to be used State-wide.

Diagrammatic Lane Allocation Warning Signs were installed on the three-lane sections of the main arterial roads leading in to Hobart.

TOURISM SIGNING

The Department remains heavily involved in tourism signing stemming from decisions of the Tourist Signs Advisory Council (T.S.A.C.). One aspect of this project which is causing concern to the Department is the non-removal of illegal signs. The mechanism by which such signs can be removed is still unresolved.

MISCELLANEOUS SIGN CONTRACTS

A contract for the manufacture and supply of road signs and fittings for Australian Land Transport Programme funded projects was won by the Department's Moonah Workshops.

TRAFFIC CONTROL DEVICES

A document on Traffic Control Devices for Roadworks was prepared and issued to all District construction staff at two day seminars held in each District.

REVIEW OF ROAD VEHICLE LIMITS (R.O.R.V.L.)

Transport Department Tasmania introduced increased mass limits in accordance with R.O.R.V.L. 'Option A' during December 1986.

As a consequence of these increased limits, load limits of 38 tonnes were imposed on nine bridges throughout the State, three of which have since been rescinded following installation of Bailey bridging over the existing structures.

VEHICLE PERMITS

A total of 3 214 permits was issued for the movement of overweight and/or over sized vehicles during the year. This compares with 3 323 permits issued during 1985-86.

SPECIFICATION FOR THE GEOMETRIC DESIGN OF RURAL ROADS

The section dealing with junction design has been issued.

The complete 1986-87 revision of the above specification is expected to be issued shortly.

BRIDGE DIVISION

HYDRAULICS SECTION

LAUNCESTON FLOOD PROTECTION SCHEME

The progressive rehabilitation of the Scheme was continued by the Launceston City Council over the year.

An over-expenditure of \$0.032 m shown in last year's report was understated by \$0.047 m. The omission occurred during a change-over of computers in Launceston.

Total expenditure in the year 1986-87 was \$0.241 m made up as follows:

	\$m
Over-Expenditure 1985-86	0.079
Contract for extensions to southern wingwall at Forster Street Floodgate \$106 238—expended 1986-87	0.072
Reconstruction of Mowbray Levee Stage IV	0.075
Reconstruction of Scottsdale Levee over the old railway line	0.010
Miscellaneous corrections	0.005
Committed expenditure.....	0.241

It is anticipated, that with closer liaison over expenditure will be prevented in the next financial year.

ROAD DRAINAGE AND FLOOD PROTECTION

Site investigations and hydraulic reports were prepared for 32 km of classified roads, including the Lyell Highway at Gretna, Cradle Mountain Road from Learys Corner to Waldheim, Esk Main Road near Ormley, Fenton Main Road—Westerway Bypass, Arthur Highway near Taranna, Bass Highway—Smithton Bypass, Bellerive Bypass, and the Murchison Highway near Henrietta.

Detailed drainage design was undertaken for 5 km of National route near the Hadsphen Interchange; the major structure is a 2 100 mm pipe culvert some 280 m long.

Design drawings for the 5 km section of the Bass Highway between Forth River and Forth Road were reviewed.

Preliminary reports for planning purposes were proposed for the section of the Bass Highway between Deloraine and Hagley. A total of 47 timber bridges were assessed for replacement. Where possible permanent materials were recommended for reconstruction.

Miscellaneous work includes the investigation of stormwater discharge of five subdivisions near classified roads.

BRIDGE MAINTENANCE

TASMAN BRIDGE

A contract was let to Steedman Ltd, for the supply, installation and commissioning of a navigation aid system. The system will enable continuous monitoring of current and wind speeds and directions to be relayed by telemetering techniques to portable receivers operated by Marine Board pilots, and ultimately to the Board's Port Control Tower. The system incorporates a solar-powered twin-hulled aluminium raft carrying the sensing and transmitting equipment. The raft was designed by the Marine Board and constructed by International Catamarans Pty Ltd under contract to a specification prepared and administered by the DMR. At this stage although the Port Control Tower had not reached completion the current meter raft is fully operational and functioning satisfactorily. It is moored 1 km north of the Bridge near the main navigation channel and on line-of-sight to the Port Control Tower.

Selected footway plates on the downstream side of the Bridge were painted with an anti-skid coating. Waterproofing of the feature lights has proved to be successful in that maintenance and frequency of replacement of lights has been substantially reduced.

Monitoring of the sunken ship, Lake Illawarra, has continued with no appreciable movement being registered.

In order to overcome wind-induced fatigue problems being experienced with the lighting poles, lanterns and outreach arms, and in conjunction with the H.E.C., five adjacent poles were selected and fitted with 'Optispan' lanterns. The lanterns were mounted on short outreach arms on a trial basis for at least six months to gauge public reaction and to evaluate lighting efficiency and glare characteristics. Results of the trials were satisfactory and have led to the development by H.E.C. of a slip-on, short outreach arm which can be readily bolted and clamped securely to the top of the existing light poles. The replacement work, to be undertaken late in 1987, will improve the safety of the poles and lanterns and reduce the frequency of lane closures and lamp replacement costs.

BRIDGEWATER BRIDGE

The State Government's acceptance of the R.O.R.V.L. loading standards necessitated the imposition of a 38 tonne load limit on the already overstressed Bridgewater Bridge. However, design and documentation to strengthen the bridge has been completed by Consultants Stephenson Maunsell and Partners and approved by the DMR. The construction work will be carried out in 1987-88 by DMR's Moonah Workshops and the South-East District workforce.

The last two road and railway approach spans were grit-blasted and painted, bringing to completion maintenance repainting of the southern approach spans.

For safety when shunting, Australian National Rail installed a walkway between the road and rail superstructures.

The new diesel standby power plant with fluid coupling drive and alternator has been purchased for lift span operations. It has been assembled and shop-tested with satisfactory results. The 1 tonne standby plant is ready for installation in the replacement of the existing 40 years old petrol driven plant. It will be installed in 1987 upon completion of the design, drawings and fabrication of a lifting frame, subject to approval by the Department of Labour and Industry.

Lift span openings totalled 131 in 1986-87. The openings were required for maintenance purposes (16 occasions) and to allow passage of 274 vessels comprising:—

Newsprint vessels—6

Ferry and cruise boats—30

Private pleasure craft—238

This represents a substantial reduction (74 per cent) in lift span openings compared with the previous year (505 openings). This is attributable to Australian Newsprint Mills no longer transporting newsprint by water.

BRUNY ISLAND FERRY TERMINALS

Expanded metal vehicular running strips were attached to the loading ramps at both terminals in order to protect the laminated timber decking on the ramps against wear and damage from traffic. The running strips provide improved traction for vehicles using the ramps at extreme tides and in wet weather. Routine and emergency hydraulic and electrical maintenance was carried out.

Two 500 mm long rubber fenders on the finger pier at the Roberts Point Terminal failed and were replaced as a matter of urgency. With the workforce and equipment already on hand for the fender replacement, the opportunity was taken to carry out underwater inspection and maintenance on the fender piles, pile hinges and fender chains at both terminals.

DENISON CANAL SWING BRIDGE

The steel grid roadway and footway sections of the swing span deck were repainted with anti-skid coatings. Stabilization of the eroding banks of the Canal was temporarily discontinued due to lack of funds. Vessels passing through the Canal in 1986-87 totalled 1 140, which represents a further decline in Canal usage, being a reduction of 51 vessels (4 per cent) compared with the previous year. Routine hydraulic and electrical maintenance was carried out on a regular basis.

BOWEN BRIDGE

The approval of the Department of Labour and Industry was given to the access ladders for the Water Board's maintenance trolley. The access ladders, landings and cages were fabricated and installed by the DMR's Moonah Workshop. Vandalism continued to be a problem requiring the erection of manproof fencing at the western abutment and at Pier No. 9 (easternmost pier). Signs prohibiting fishing from the Bridge have been erected at the abutments.

BATMAN BRIDGE

The inspection/maintenance gantry has been temporarily removed for servicing, repairs and repainting. Maintenance repainting of the bridge fencing has been completed.

BRIDGE MAINTENANCE GENERALLY

In the South-East District, steel girders and fencing on the following bridges were repainted:—

Native Hut Rivulet Bridge (Colebrook Main Road)

Nelson Creek Bridge (Tasman Highway)

Resolution Street Pedestrian Overpass

Rose Bay Pedestrian Overpass

Waterproofing, corrective work and resurfacing of the deck of the Domain Road Overpass were carried out as part of the Domain Road pavement resurfacing programme.

In the North-East District the steel girder and fence maintenance painting programme was continued on the following bridges:—

South Esk River Bridge, Perth (Midland Highway)

Liffey River Bridge, Carrick (Bass Highway)

In the North-West District, the work involving restoration of shear keys and resurfacing of the Franklin River Bridge (Frankford Main Road) was completed.

Bridges of the inverted U-beam design throughout the State were inspected. Priorities were established for remedial work on the decks of the worst affected bridges, involving the construction of a concrete overlay to be applied to the bridge deck at a rate of one bridge per District per year. The programme for washer insertion and transverse bolt tightening on all U-beam bridges has been completed in all Districts.

Work involving the revision and updating of the list of proclaimed bridges on unclassified roads in cities, towns and rural municipalities has been virtually completed.

Work on the bridge inventory has continued.

JETTIES, SLIPWAYS AND FISHING FACILITIES

GENERAL MAINTENANCE

An amount of \$0.116 m was expended on the maintenance of State jetties and slipways. Details of works are as follows:—

	\$
Divers Inspections of State Jetties.....	473
Minor, Miscellaneous and Emergency Repairs	9 888
General Maintenance of State Slipways	17 547
St Helens Point Light	368
Port Davey Light.....	1 425
Bruny Island Ferry Berths.....	19 099
New Norfolk Jetty	9 529
Opossum Bay Jetty.....	8 929
Dover Jetty	13 327
Gordon Jetty.....	3 357
South Arm Jetty	1 058
Lewisham Jetty.....	3 405
Pirates Bay Jetty.....	1 055
Denison Canal Wharf.....	3 576
Charles Street Jetty, Triabunna	10 285
Nubeena Jetty.....	2 911
Bridport Jetty and Landing Stage.....	314
Stanley Fishermens Dock.....	964
Deepwater Jetty, Triabunna	7 901
Brid River Jetties.....	628
TOTAL	\$116 039

CONSTRUCTION WORK—DENISON CANAL—DREDGING

A contract was let for the dredging of the Canal to improve navigation in the area.

The total cost including supervision amounted to \$0.28 m.

DARLINGTON JETTY AND BREAKWATER—MARIA ISLAND

Following prefabrication of most components, construction of jetty extensions and a breakwater was commenced in June. The work is expected to be completed in the next financial year. Expenditure for the year was \$0.032 m.

DUNALLEY JETTY FENDERING

Finishing touches to the work done in the previous financial year were made at a cost of \$0.004 m.

KING ISLAND WHARVES—GRASSY WHARF PAVING

The interlocking paving blocks, purchased in 1986, were laid in the current year at a cost of \$0.021 m.

FISHING PORTS UPGRADING

Implementation of the Tasmanian Fishing Port Study has been continued over the year.

The projects under investigation design and construction are:

STANLEY—UPGRADING OF FISHERMENS DOCK

The construction of the wharf is substantially complete. Due to foundation problems, the original 140 m of face was reduced to 135 m. Outstanding items were the connection of the water supply and electricity to the wharf outlets. Total expenditure in the 1986-87 year was \$0.463 m.

TRIABUNNA—DREDGING TO CHARLES STREET JETTY

The access to Charles Street Jetty was dredged and the excavated material was pumped behind containment bunds. Top soil is to be placed on the bunds and pasture grasses sown. Expenditure for 1986-87 was \$0.613 m.

TRIABUNNA SLIPWAY—UPGRADING

As part of overall upgrading one of the old cradles was replaced with a steel cradle. The expenditure for the financial year was \$0.031 m.

CURRIE

The Water Research Laboratory of the University of N.S.W. prepared a report at a cost of some \$0.033 m for the design of a breakwater in conjunction with jetty renewal. Design for the jetty is near completion and a Cabinet Submission is in the final stages of preparation. The estimated cost is \$1.8 m. Expenditure to 30 June 1987 amounted to \$0.056 m.

ST HELENS—GEORGES BAY TRAINING WALL

Following substantial completion in the previous year, the results of the works were monitored over the financial year. It was pleasing to note that channel depths were approximately one metre deeper than predicted in the study. Total expenditure this year was approximately \$0.152 m.

The Water Research Laboratory of the University of N.S.W., during a preliminary inspection, made the recommendation that the training walls be raised and enlarged. A design is being prepared and some work has been done. Total expenditure this year was \$0.001 m.

ST HELENS—BERTHING JETTIES

Access to the jetties was sealed during the year at a cost of \$0.008 m.

STRAHAN—100 TONNE SLIPWAY

Detail design for the new slipway is substantially complete. The location decided upon now is adjacent to the existing slipway. It is anticipated that construction will commence in 1987-88.

STRAHAN—BOAT LAUNCHING RAMP

A design was prepared for a new boat ramp at Mill Bay. Some on-shore work was completed during the year at a cost of \$0.087 m.

LAKE ST CLAIR—CYNTHIA BAY JETTY

A new jetty was constructed at Cynthia Bay for the Department of Lands, Parks and Wildlife. Expenditure to 30 June 1987 amounted to \$0.129 m.

PLANT DIVISION**GENERAL**

The Plant Division, which incorporates the workshops at Moonah, Launceston and Ulverstone, provides plant and workshop facilities for the Department's construction and maintenance activities on roads and bridges.

Income from DMR plant hire amounted to \$13.5 m. In addition \$14.311 m was paid to private contractors for the hire of plant on DMR projects during the year.

PLANT PURCHASES

An amount of \$2·887 m was spent on equipment purchases and replacements, including three secondhand Caterpillar D8L dozers, two loaders, three graders, two S.P.M.T. rollers, one iron wheel roller, four light front end loaders, two bitumen sprayers, two 'flashing lights' trailers and one heavy transport 2 x 4 dolly.

TRAINING AND DRIVER TESTING

During the year 212 people, including 142 from other Departments, were tested and issued with DMR driving permits.

One day Defensive Driving Seminars were held at Moonah, Launceston and Ulverstone with a total attendance of 88.

VEHICLE ACCIDENTS

The frequency of vehicle accidents decreased during 1986-87 from 0·81 accidents per 100 000 km to 0·72 in the financial year. Personal injury has been negligible. Sixteen accidents resulted in major damage in excess of \$1 000.

APPRENTICES

Participation in the Hydro-Electric Commission's training scheme was again made available to first year metal trades apprentices from Moonah, as well as that of the Associated Pulp and Paper Mills for Ulverstone apprentices.

The number of apprentices currently undergoing training in the Department's workshops is fifty six (56) made up as follows:—

Moonah—25

Launceston—18

Ulverstone—13

DEPOTS AND WORKSHOPS

The Workshop Production Account recorded an annual turnover of \$7·442 m.

Signs to the value of \$0·40 m were manufactured by the Moonah Sign Shop.

Major work carried out during the year, apart from the main function of plant repairs and miscellaneous steel construction, was the commencement of the manufacture of a 35 tonne cradle for Triabunna Slipway.

Moonah Workshop also processed 800 tonnes of reinforcing steel.

WORKSHOP EQUIPMENT PURCHASED

Bar Bending Machine—Moonah

Lathe—Ulverstone

I.F.R. Monitor Test—Signals & Communication Shop Moonah

DEPOT IMPROVEMENTS

Sealing of carpenters yard—Ulverstone

Renovating light vehicle service bay—Ulverstone

Installing insulation and erecting partitions—carpenters shop—Moonah

Completion of plumbers workshop—Ulverstone

FINANCIAL STATEMENTS

The Plant Division operates with an April to March financial year. The Division trading account is the Road Construction Plant Suspense Account which must be kept as required by Section 6 of the Roads and Jetties Act 1935.

The Road Construction Plant Suspense Account financial statements for the period are reported in Annexure D.

SURVEY SECTION

GENERAL

The section provides survey services for road and bridge design, construction by day labour and contract, contract supervision, planning of future highway development, civil design projects, land acquisitions, and Materials and Research investigations.

Demand for services continued at a high level throughout the year and on some occasions, due to depleted staff resources, it was necessary to engage consultant surveyors to assist with the work load.

SIGNIFICANT ACTIVITIES

Some 99 km of accurate control traverses originating from the State Geodetic Network were established. These surveys provide the basis for survey, design and construction on major projects.

A total of 95 significant surveys was completed for Road Design Division (44), Bridge Division (36), Civil Design Section (13) and Department of Construction (2).

Major projects included:

- Bass Highway (Penguin to Howth)
- Bass Highway (Pateena Road to Hagley) including bridge sites and interchange areas
- Kings Meadows Connector
- Brooker Highway (Berriedale to Abbotsfield Road)
- Arthur Highway (Masons Point to Taranna)
- Hobart Southern Outlet (Mt Nelson to Kingston)
- Pieman River Bridge to Corinna
- Barway monitoring at Georges Bay, St Helens
- Dredging Contract, Spring Bay, Triabunna, and Denison Canal, Dunalley.

Surveys for land acquisition and disposal of surplus lands involving 217 properties were completed.

Mapping at a cost of \$0.032 m for planning of future highway development was arranged with outside agencies during the year.

OTHER MATTERS

Individual staff members attended the Institution of Surveyors (Australia) conference in Perth W.A., and the Institution of Engineering and Mining Surveyors conference in Canberra. A staff seminar for all surveyors was held in March 1987.

MATERIALS AND RESEARCH LABORATORY

GENERAL

Scientific Officers were appointed to the two District Laboratories. The North East Laboratory was renovated completely. These moves will produce long-term benefits to the scope and efficiency of the District Laboratories.

CENTRAL LABORATORY

The following outlines the scope of the activities of the Section.

(a) BITUMEN AND BITUMINOUS PRODUCTS

Quality control tests of Class 170 bitumens from Selfs Point continued. The Laboratory participated in an interlaboratory bitumen test programme.

Asphalt control tests were undertaken for the Department's Asphalt Plant which operated intermittently at Perth. Designs were prepared for seven asphalt mixes.

(b) CONCRETE AND MASONRY

There was 31 per cent growth (to 1 127) in the number of concrete cylinders tested.

The Laboratory continued participation in the testing and design of roller compacted concrete on the Craighourne Dam project. The design and testing of a 1 km pavement trial on Tea Tree Road was undertaken in co-operation with Avoca Transport.

Four trial mix designs were prepared for use in precast deck units for the Lune River Bridge.

A total of 142 building bricks and blocks was tested for outside clients.

(c) SOILS AND AGGREGATE

The Laboratory tested 846 samples submitted from Department sources and 199 from outside clients. There was a very marked reduction by 55 per cent in tests for outside clients, compared to the previous year.

(d) SOIL MECHANICS

Triaxial and consolidation testing was undertaken on eight projects, including major studies for the King River Bridge project and the Penguin to Howth road corridor.

(e) PAINT

The results of the 1985-86 National Association of Testing Authorities (N.A.T.A.) proficiency testing were received. The Laboratory's results were satisfactory. Further evaluations were made of comparative exposure tests on red lead-Ferrodor and carbonastic paint systems.

(f) PIPE TESTING

One inspection was made on behalf of the Buildings Regulation Board of the two factories producing UPVC pipes. Due to a recent reorganisation of the Local Government Office it is doubtful if the pipe testing will be required in the future.

Four types of perforated corrugated plastic piping were tested for contract and tender purposes.

(g) PAVEMENT INVESTIGATION

The Laboratory Section undertook skid resistance tests on six road sites throughout the State and investigation of the strength requirements on 14 more projects including:—

Load limits for Glen Huon Main Road and Huon Highway.

Effects of change in A.N.M. log cartage methods on classified roads.

(h) ROAD SIGNS AND MARKINGS

The Laboratory participated in an interlaboratory exercise to assess different methods of determining the roundness of glass beads. Evaluations were made of beads submitted for tender and of reflective sheets and road markers.

An investigation was undertaken on the effect of the surface treatment of the aluminium backing of road signs as to the adhesion of the reflective sheeting.

(i) MISCELLANEOUS

Five types of batteries were evaluated for cost effectiveness on behalf of the Supply and Tender Department.

The Laboratory continued to certify loadometers for Transport Department Tasmania.

A noise survey was undertaken at the Northern Outlet Road, Chigwell.

FIELD SECTION

The Section undertakes the field investigation activities for road corridors, pavements and bridge foundations throughout the State and field construction control tests in the South-East District.

Facilities for examining and storing drill core were greatly improved with the conversion of three of the garages at Lampton Avenue to a core store.

(a) PAVEMENT STUDIES

Pavement studies covering 100 km of roadway comprised rebound deflections, deflection bowls, visual condition and test pitting.

A statewide road roughness survey was completed.

(b) GEOTECHNICAL INVESTIGATIONS

These investigations, which include bridge and building foundations and road corridors, use a variety of techniques, including geological and geophysical survey, air photo interpretation, drilling, penetrometer probing and trial pit excavations. The Mines Department continued to provide most drilling services.

A total of 91 drill holes was made on 18 projects; 244 test pits dug on 28 projects; 88 penetrometer probes of 16 projects and 90 seismic traverses on 18 projects.

The most significant studies were:

Foundation investigations on the King River near Crotty for a new bridge on the relocated Lyell Highway. Examination of the originally favoured site was completed. A new site about 0.5 km downstream from the original was also investigated.

A foundation investigation of a possible bridge and its approach embankments on the Pieman River at Corinna.

Penguin to Sulphur Creek deviation on the Bass Highway.

Foundation for the Scamander River Bridge on the Tasman Highway.

Foundation studies for the South Esk River Bridge at Hadspen.

The foundations for proposed buildings on seven different sites were investigated for the Department of Construction.

(c) CONSTRUCTION CONTROL

Construction control tests, mainly density, sampling and Benkelman Beam were conducted on thirteen construction projects in the South-East District.

DISTRICT LABORATORIES

Scientific Officers were appointed to each of the two District Laboratories. Both laboratories undertake field control testing for day labour and contract works undertaken within the District.

NORTH EAST LABORATORY

The Laboratory was extensively renovated and refurbished throughout the year. The major activities were control tests on the Launceston Southern Outlet Road and the Lilydale Main Road. The extent of testing undertaken is summarised in Laboratory Test Statistics below.

NORTH WEST LABORATORY

The major activities have been control testing on the Don Hill to Forth Hill Stage 2 and the Mole Creek Connector. Some more distant day labour projects were underserved due to staff resources. The extent of testing is summarised in Laboratory Test Statistics below.

GENERAL MATTERS**(a) EQUIPMENT**

Equipment purchased throughout the year was almost exclusively replacement or upgrading items for existing equipment. Expenditure on new equipment was \$0.020 m for Central and District Laboratories and \$0.037 m for the Field Section.

(b) STAFF

At the end of the year the staffing levels at the Central Laboratory (Field and Laboratory Sections) stood at 24 public service positions (including three positions which will be filled by Works Construction Act employees) and one day labour position. There were four staff in each District Laboratory.

Both Scientific Officers for the Central Laboratory are now N.A.T.A. assessors.

(c) EXPENDITURE

The total expenditure incurred against the Section's budget for 1986-87 was \$0.236 m. Receipts from outside testing amounted to \$0.035 m.

LABORATORY TEST STATISTICS

The following is not a complete list of testing carried out. It excludes all field tests and most of the specialised tests conducted for particular investigations. It is largely a summary of routine materials testing used for control purposes.

BITUMEN AND BITUMINOUS PRODUCTS

	<i>Central</i>	<i>North-East</i>	<i>North-West</i>
(a) <i>Class 170 Bitumen</i>			
Selfs Point Refinery	23	....	....
On job samples .....	....	....	....
(b) <i>Adhesion Agents</i>			
Tender samples .....	....	5	....
(c) <i>Asphalt</i>			
Mix Designs:			
compaction .....	....	7	....
Control for Mobile Plant:			
Mix Analysis .....	....	60	....
Aggregates .....	....	45	....
Marshall Blocks	64	....	....
Mix Analyses of Products:			
Private Clients	3	....	....
N.W. District	13	48	....
S.E. District	19	....	....
N.E. District	73	....	....
CONCRETE AND MASONRY			
Concrete Compression Tests	1 127	509	465*
Bricks and Blocks .....	....	142	....
Mix Designs (excluding R.C.C.)	4	....	....
* Tested by Goliath Railton			
SOILS AND AGGREGATES			
Classification Tests	1 045	670	429
PAINTS			
Control and Quality Tests	7	....	....
PIPE TESTING			
Buildings Regulation Board—			
samples evaluated	135	....	....
perforated corrugated plastic pipes	4	....	....

ADMINISTRATION**GENERAL**

The Department is still operating with employment levels significantly below an objectively determined optimum level. Staff continued to respond positively to increased pressure. However, there are indications in some areas that long-term under-manning could adversely affect the Department's stated objectives on behalf of the Government.

STAFF

At 30 June 1987 the Department had a maximum of 450 full time equivalent positions approved pursuant to the State Service Act 1984. The actual number employed was 436, made up as follows:—

Administrative Officers, Accountants & Clerical Staff	119
Professional Engineers	87
Surveyors & Survey Assistants	53
Scientific Officers, Technical Officers, Engineering Assistants & Technicians ...	81
Drafting Officers	52
Typists & Other Keyboard Classifications	31
Others	13
Total State Service Act Staff	436

These staff are located in the following offices:—

Head Office, Murray Street, Hobart	215
South-East District Office, Derwent Park	46
North-East District Office	54
North-West District Office, Ulverstone	59
Central Workshops & Stores, Moonah	39
Materials & Research Laboratory, Derwent Park	23
TOTAL	436

Senior appointments made during the year were:

- Mr M. R. Cover was promoted to District Engineer, North-East.
- Mr G. J. Donnelly was promoted to Chief Surveyor.
- Mr P. J. Dwyer was promoted to Administrative Officer (Personnel).
- Mr P. A. Meyer was promoted to Division Engineer, Road Construction.
- Mr R. D. Morgan was promoted to Road Maintenance Engineer.
- Mr W. K. Schoe was promoted to Senior Engineer, Road Design.
- Mr G. Surtees was promoted to District Engineer, South-East.
- Mr G. A. Tambling was promoted to Assistant Manager, Computer Applications.

The following officers retired or resigned during the year after lengthy periods of service:—

- Mr J. J. Dwyer, Chief Surveyor—41 years
- Mr J. P. Boland, Engineer—15 years
- Mrs D. M. Westwell, Stenographer—20 years
- Mr D. P. King, Executive Officer—46 years
- Mr G. W. Parsell, Budget Officer—22 years
- Mr J. A. Armstrong, Engineer—26 years
- Mrs S. C. McAllister, Drafting Assistant—20 years

STUDY COURSES AND STAFF DEVELOPMENT PROGRAMME

During the year a Staff Development Committee comprising three senior staff was formed. The Committee's brief is to make recommendations to departmental management on the form and content of future training for all employees. Initially most of the committee's attention has been focussed on engineering personnel.

At the end of the year under review there were 17 employees receiving time off for study purposes. The Department had two Engineering Scholarship holders at the University of Tasmania.

LONG SERVICE AWARDS

Eight employees completed 40 years service. Presentations were made to them in November 1986 by the Premier, the Hon. R. T. Gray.

40 Years Service

L. J. Baily	J. J. Dwyer
E. C. Barrett	A. G. Free
H. R. Bucknell	R. G. Gamble
S. P. Davie	K. M. Thomson

In December 1986 the Minister for Main Roads, the Hon. I. M. Braid presented awards to DMR employees who had completed 25 years and 35 years of service.

35 Years Service

E. G. Ashlin	G. H. Lang
H. E. Barratt	J. B. Lock
D. L. Bezzant	D. R. Marshall
M. W. Cartledge	M. D. Pearce
K. S. Davies	D. G. Pearton
M. B. Dicker	R. F. Read

35 Years Service—continued

R. J. Douce	R. F. Kennedy
G. H. Saltmarsh	B. W. Duncan
A. F. Scott	C. A. Duncombe
G. A. Triffitt	R. K. Fogarty
V. C. Webb	J. N. Hardwick
A. Williams	K. W. Horne

25 Years Service

V. Agostini	K. L. Kelb
B. T. Balsley	L. B. Kelly
G. T. Bingley	B. V. K. Lam
K. J. Blake	F. G. Lipscombe
N. F. Bradshaw	G. A. Luck
K. V. Brown	P. Maxwell
R. S. Chaplin	H. J. McIntyre
C. H. M. Clark	D. M. M. McMahon
N. R. Coates	R. Nowakowski
J. A. Cooke	P. J. Pearce
R. A. Crane	R. A. Peters
L. Csala	J. A. Poulton
A. T. Davis	T. R. Purdon
A. J. Devlyn	W. J. Quigley
M. R. Dewhurst	C. A. Raspin
P. T. Dowd	L. E. Richards
A. W. Felmingham	W. J. Richards
R. C. Fenton	R. C. Riley
T. C. Fletcher	P. V. Roach
A. J. Foster	J. A. Roney
M. K. Good	T. R. Seymour
A. E. Graham	B. D. Smith
A. L. Greatbatch	A. W. Squires
C. R. Green	V. C. Steven
B. A. Hodgkinson	A. R. Turner
L. D. Holmes	L. L. A. Warren
D. G. Hope	T. J. Waters
M. L. Hyland	D. K. Westerway
E. J. Ingram	P. J. Wettenhall
R. D. Johns	L. W. Wills
N. J. Jordan	J. A. Wolfhagen
E. Kalle	

INDUSTRIAL

Wages increased in line with National Wage decisions. Further site allowances were granted to employees working on major road and bridge building projects.

As at 30 June 1987 the number of employees engaged in workshop and field operations were:

Workshops & Depots	251
Construction and Maintenance of Roads & Bridges	868
	1 119

Retirements for the year totalled 41 including the following who served the Department for many years.

Retirements due to age:—

H. R. Bucknell	Plant Operator	40 years service
R. F. Kennedy	Leading Hand	35 years service
M. R. Wright	Foreman	32 years service
I. Appic	Labourer	31 years service
R. Barrett	Labourer	30 years service
B. W. Duncan	Driver	30 years service
M. H. Fazackerley	Plant Operator	29 years service
T. W. Hill	Labourer	28 years service
C. L. McKnight	Storeman	27 years service

Retirements due to ill-health:—

R. G. Gamble	Plant Operator	41 years service
G. D. Luck	Leading Hand	39 years service
H. J. Clayton	Plant Operator	33 years service
R. J. Bezzant	Plant Operator	32 years service
W. R. Clements	Foreman	30 years service
H. J. Palmer	Plant Operator	28 years service
L. J. Lawless	Plant Operator	27 years service

It is with regret that the deaths of the following officers are recorded:—

J. A. Roney	Foreman	26 years service
H. K. Brown	Plant Operator	33 years service

WORKERS COMPENSATION

The following payments under the Workers' Compensation Act were made during the year:—

Weekly Payments	302 431.13
Medical Services	232 934.91
	<u>\$535 366.04</u>

COMPUTER INFORMATION SERVICES SECTION

This Section provides computer services to both technical and administrative users to improve efficiency of operations. The services available are consulting, system development and access to external bureaux services including the State Computer Centre, Transport Commission and CEANET Pty Ltd.

Major activities during this Financial Year were:—

- installation of in-house Apollo equipment to support increased use of the MOSS package for road design.
- design of the Department's core accounting system to be implemented on the Treasury's Computerised Financial System facility in the first quarter of 1987-88.
- commencement of an investigation into the requirements for a future Pavement Management System.
- implementation of a system to record registration by private plant operators.
- improvement of the day labour force wages system.
- introduction of the Ministerial correspondence system.
- conversion of technical programmes from the Transport Department Tasmania bureau to the in-house Prime.
- conversion of the Traffic Section's enumeration programmes to dedicated Personal Computers.
- extension of the department's dedicated data communications network to all District Offices.
- acquisition of a Personal Computer based system to provide computer aided drafting capability in the Moonah Depot Workshops.

Bureaux services continue to be used for these applications:—

- Salaries system on the Prime Facility of Transport Department Tasmania.
- State Services Personnel System on the State Computer Centre's Unisys computer for the maintenance of departmental personnel information.

the Plant Control System also on the State Computer Centre's Unisys computer.
the NAASRA road data base also at the State Computer Centre
running of some programmes associated with bridge design on the CEANET bureau.
an important achievement this financial year has been to transfer expensive bureau applications to in-house equipment.

INDUSTRIAL SAFETY

The Central and District Safety Committees continued their promotion of the Department's Safety Policy and Accident Prevention programme on road and bridge construction sites and in the main workshops throughout the Department.

Training of employees at Supervisory and gang levels continued and special courses were conducted.

Two First Aid Courses were held in 1986-87 one each in Launceston and Hobart.

At the Launceston course 21 employees attended with 18 Senior and three Advanced First Aid Certificates being awarded.

The course in Hobart was attended by 20 employees who gained eleven Senior, eight Advanced and one Medallion Certificate. These were excellent results and will assist in maintaining the high standard of first aid at gang level throughout the Department.

Two courses were conducted in the operation of chain saws, one in the North-West District and one in the North-East. Both courses proved successful and all members passed in the practical and theoretical aspects of safe and efficient chain saw operation.

Safety training of first year apprentices in all trades was again conducted in the three main workshops at Launceston, Hobart and Ulverstone.

Assessment and safety training of other apprentices was arranged with good participation by all levels of apprentices.

Scott Greaves, a Launceston fourth year apprentice diesel fitter was selected Apprentice of the Year as well as Top Apprentice Automotive Trades.

The Safety Officer attended both road and bridge site inspections and on site safety training. Workshop inspections and safety training were also carried out.

A one day seminar on line marking operations was conducted in Launceston on 27 November 1986. The seminar was co-ordinated by the Division Engineer Road Construction assisted by the Road Maintenance Engineer and the Safety Officer. The Maintenance Supervisors, Assistants and line marking gang foremen attended.

From the seminar discussions important recommendations were made for updating of equipment, vehicles and signing.

The Department's accident statistics showed an overall increase of nine lost time accidents over the previous year. This increased the frequency rate from 65 to 68 with an average monthly accident rate of 15 lost time accidents.

PROPERTY ACQUISITIONS

During 1986-87 a total of 184 property acquisitions were completed, 198 were commenced and at the end of the financial year 324 acquisitions were in progress. Expenditure on property acquisitions for the year was \$3 552 175 compared with \$3 026 815 for the previous year. Included in this total was an amount of \$1 608 144 for National Highway projects.

The major areas of expenditure included the purchase of properties affected by the construction of the Bass Highway (Penguin to Howth and Don Hill to Ulverstone), Burnie Expressway, Deloraine Bypass, Launceston Southern Outlet and the Tasman Highway Extension to Davey Street. Many minor property acquisitions resulted from the reconstruction of the Arthur Highway, Huon Highway, Lyell Highway, Tasman Highway and the West Tamar Highway.

STORES

The total value of all stores issued during the year from the three district stores, was approximately \$2.9 m and the value of stores holdings as at 20 June 1987 was \$1 131 048.11.

	<i>Moonah</i>	<i>Launceston</i>	<i>Ulverstone</i>	<i>Total</i>
Opening Stock (1986)	605 093.11	208 738.55	167 384.92	981 216.58
Closing Stock (1987)	755 166.99	178 673.81	197 201.31	1 131 042.11
Increase	150 073.88	....	29 816.39	....
Decrease .....	....	30 064.74	....	....

Period contract orders placed for stores totalled 9 008. Orders processed through Supply and Tender approximated 22 500. This resulted in a higher turnover of orders than was the case in 1985-86.

	\$
Construction Store Budget	200 000.00
Review Increase	20 000.00
Expenditure	222 140.85
Over Expended	\$2 140.85

During the past year 3 116 items have been identified as slow-moving stocks. These items which have not moved during the past four years have a stock value of \$66 914.86.

District Engineers have been asked to utilise these items. If that can not be arranged the items will be sold. Many of the the slow-moving items were identified as redundant and were disposed of by auction or tender.

CONTRACTS

The following contracts were entered into during 1986-87 (including building demolitions and sub-contracts).

<i>Contract No.</i>	<i>Description</i>	<i>Contract Price</i>
		\$
B-A/R-105	Launceston Southern Outlet, Glen Dhu Section, Road Construction	3 606 527.05
R-N/R-108	East Tamar Highway, Bell Bay Turnoff to Four Mile Creek, Widening	1 508 031.52
R-N/R-111	Bass Highway, Duplication, Ulverstone to Penguin Stage I	2 571 391.80
B-A/R-112	Arthur Highway, Reconstruction—Eaglehawk Neck to Mason's Point	2 737 122.04
R-N/R-115	Bass Highway, Forth River to Ulverstone Bypass, Stage I, Road Construction	3 574 651.97
R-N/R-116	Bass Highway, Deloraine Bypass, Mole Creek Connector	1 603 572.80
R-N/R-117	Midland Highway, Improvements at Powranna Junction	429 300.00
B-A/R-118	Davey Street Extension	1 455 787.70
B-N/R-124	Prospect Bypass, Road Construction Stage III	2 100 599.40
B-N/B-126	Mole Creek Connector Underpass, Bass Highway, Deloraine Bypass	825 571.00
R-N/R-133	Bass Highway, Prospect Vale to Pateena Road, Relocation of Water Main	30 565.00
R-NA/R-137	ALTP Funded Projects—Supply of Road Signs & Fittings	45 071.00
B/SE-405	Dredging at Charles Street Jetty, Triabunna and Denison Canal, Dunally	736 880.00
R/SE-407	Tasman Bridge Traffic Control Officers	28 463.98
R/SE-1034	Huon Highway, Kerb and Guttering through Geeveston	30 093.50
R/SE-1035	Davey Street Extension, Kerb and Channel Works	41 095.00
R-N/M-1038	Midland Highway, Bagdad to Dysart, Asphalt Surfacing	42 963.10
R/SE-1039	Davey Street Extension Stage II Asphalt Surfacing	169 150.00
R/SE-1041	Southern Outlet Road, Davey Street to Zomay Avenue, Asphalt Surfacing	108 720.00
R-N/M-1043	Midland Highway, Lovely Banks to Spring Hill, Asphalt Surfacing	65 416.50
R/SE-1044	Domain Highway—Domain Interchange, Asphalt Surfacing	32 192.00
R-N/W-3058	Bass Highway, Mt Hicks Junction Roundabout, Supply and Lay Asphalt	69 309.00
R-N/M-3061	Bass Highway, National Highway Municipal Boundary Deloraine/Latrobe West towards Paramatta Creek, Supply and Lay 14 mm Asphalt	98 520.00
R-A/M-3062	Bass Highway B8-96 to B10-56 km West Somerset, Supply and Lay 14 mm Asphalt	118 586.70
R-A/M-3063	Murchison Highway, Hellyer Gorge, Supply and Lay 7 mm Asphalt	54 314.20
R-L/M-3064	Natone Main Road, Stowport Hill, Supply and Lay 14 mm Asphalt	73 264.80
R-A/R-3073	Bass Highway—Sisters Hills, Supply and Lay 14 mm Asphalt	95 217.00

AGREEMENTS

Contracts below \$20 000 in value (\$30 000 for bituminous works) are usually the subject of a simplified form of contract termed 'agreements' the following agreements were entered into during 1986-87:—

	<i>Bridges</i>	<i>Sealing</i>	<i>Gravel</i>	<i>Others</i>	<i>Total</i>
North-West District .....	....	13	24	24	61
North-East District	1	1	12	39	53
South-East District	3	5	6	13	27
Head Office	1	....	4	5	10
TOTALS	5	19	46	81	151

ANNEXURE A

CONSOLIDATED FUND WORKS AND SERVICES EXPENDITURE 1986-87

1985-86 \$		1986-87 \$
	ROADS AND BRIDGES—	
1 749 340	Falmouth to Chain of Lagoons Link Road	1 896 810
1 330 016	Flagstaff Gully Link Road	118 335
580 129	Glenorchy City Centre Bypass	448 343
3 034 316	Guildford to Hampshire Link Road	2 326 903
2 615 286	Hobart Southern Outlet	3 778 416
1 048 184	Huon Outlet Road .....	....
....	Lake Leake Main Road	468 069
....	Masters Games Signing	10 000
2 702 374	Que River to Learys Corner Link Road	2 389 960
1 510 355	Smithton to Zeehan Corridor	2 002 848
1 080 000	Refund to Consolidated Fund—Recurrent Expenditure for Administration	940 000
<u>15 650 000</u>	TOTAL (Roads and Bridges)	<u>14 379 684</u>
	OTHER WORKS	
200 000	Launceston Flood Protection Scheme	200 000
157 548	Jetties and Facilities for Fishermen	359 882
969 770	Upgrading of Fishing Ports	1 360 434
<u>1 327 318</u>	TOTAL (Other Works)	<u>1 920 316</u>
<u>\$16 977 318.</u>	TOTAL (ALL WORKS)	<u>\$16 300 000</u>

ANNEXURE B

FINANCIAL ASSISTANCE TO LOCAL GOVERNMENT AUTHORITIES

1985-86 \$		1986-87 \$
	Direct Grants—	
269 926	Arterial Roads—Construction	472 264
	Local Roads—	
7 668 639	Construction	7 115 943
3 022 347	Maintenance	3 272 362
<u>10 960 912</u>		<u>10 860 569</u>
	Works on Council Roads Financed and Carried out by DMR—	
2 643 696	Repair and Renewal of Bridges	2 577 843
1 429 773	Roadworks	256 620
<u>15 034 381</u>	TOTAL	<u>\$13 695 032</u>

ANNEXURE C
BITUMINOUS SURFACING COMPLETED 1986-87 (km)

Road	Hot Bitumen Sprayed			Seal	
	Prime and Seal	Primer Seal	Flush Reseal	Asphalt	Total
<i>South-East District</i>					
Arthur Highway	2.70	0.48	9.25	....	12.43
Channel Highway .....	....	....	13.99	....	13.99
Domain Highway .....	....	....	....	0.60	0.60
Huon Highway	2.50	....	1.10	....	3.60
Lake Highway .....	....	....	6.84	....	6.84
Lyell Highway	2.74	....	4.00	....	6.74
Midland Highway .....	....	....	3.54	1.39	4.93
Southern Outlet .....	....	1.52	0.75	....	2.27
Tasman Highway	4.90	1.19	10.95	4.86	21.90
Bruny Main Road	2.00	....	....	....	2.00
Colebrook Main Road .....	....	....	8.85	....	8.85
Fenton Main Road .....	....	1.00	5.06	....	6.06
Glen Huon Main Road .....	....	....	6.35	....	6.35
Boyer Secondary Road .....	....	0.94	....	....	0.94
<i>North-East District</i>					
East Tamar Highway .....	....	2.78	3.11	0.87	6.76
Midland Highway	1.08	2.51	1.88	1.60	7.07
Tasman Highway	3.50	....	....	0.65	4.15
West Tamar Highway .....	....	1.04	....	0.98	2.02
Blessington Main Road .....	....	....	10.65	....	10.65
Bridport Main Road .....	....	....	2.40	2.31	4.71
Esk Main Road .....	....	....	5.63	....	5.63
Frankford Main Road .....	....	5.63	....	....	5.63
Illawarra Main Road .....	....	....	....	0.78	0.78
Lake Leake Main Road	16.52	....	....	....	16.52
Lilydale Main Road	3.94	....	1.01	....	4.95
Poatina Main Road .....	....	4.79	....	1.61	6.40
Pipers River Secondary Road .....	....	....	6.45	1.20	7.65
Coles Bay Tourist Road	3.38	....	....	....	3.38
<i>North-West District</i>					
Bass Highway .....	....	6.00	12.85	5.34	24.19
Lake Highway .....	....	1.20	....	....	1.20
Lyell Highway .....	....	....	8.40	....	8.40
Murchison Highway .....	....	....	9.80	1.43	11.23
King Island Main Road .....	....	....	1.60	....	1.60
Mengha Main Road .....	....	....	2.14	....	2.14
Mersey Main Road .....	....	....	0.68	....	0.68
Natone Main Road .....	....	....	....	1.65	1.65
Ridgley Main Road .....	....	....	....	0.32	0.32
Sheffield Main Road	1.82	....	0.54	....	2.36
Waratah Main Road .....	....	....	16.00	....	16.00
Cradle Mountain Tourist Road	3.00	....	1.45	....	4.45
TOTALS.....	48.08	29.08	155.27	25.59	258.02

The following works were also carried out by the Department on classified and unclassified roads:—

Mathinna Secondary Road—21.80 kms Flush Shoulder Seal

Lune River Subsidised Road—0.76 kms Prime and Seal

Flagstaff Gully Road—0.40 kms Primerseal

King and Anthony Road Power Development—16.60 kms Prime and Seal for HEC.

Heemskirk Road—9.80 kms Prime and Seal for HEC.

ANNEXURE D

ROAD CONSTRUCTION PLANT SUSPENSE ACCOUNT

Income and Expenditure Statement for financial period 29 March 1986 to 28 March 1987

Period Ending 28.3.86 \$		Period Ending 28.3.87 \$
	INCOME—	
9 893 753	Plant Hire	13 468 256
7 796 306	Workshop Charges	7 653 829
133 855	Miscellaneous Income	169 285
130 676	Net Profit on Sale of Surplus Plant.....	146 693
17 945 590	TOTAL	21 438 063
	EXPENDITURE—	
8 811 521	Plant Operation and Maintenance.....	8 764 486
6 536 516	Workshop Operations	7 711 533
1 690 452	Plant Depot Administration & Maintenance	1 919 855
1 014 111	Depreciation on Plant and Equipment.....	1 271 941
21 518	Depreciation on Land and Buildings	22 022
18 074 118		19 689 837
(119 528)	Excess of Income over Expenditure for Period.....	1 748 226
\$17 954 590	TOTAL	\$21 438 063

ROAD CONSTRUCTION PLANT SUSPENSE ACCOUNT

Balance Sheet as at 28 March 1987

1986 \$		1987 \$
	NATURE AND SOURCE OF FUNDS USED—	
	Accumulation Account—	
1 032 535	Balance Brought Forward 30 March 1986.....	984 405
(119 528)	Surplus Transferred from Income and Expenditure Statement.....	1 748 226
71 398	Transfer from General Reserve for Increased Cost of Plant Replacement.....	3 423 274
984 405		6 155 905
	Funds provided by State Treasurer—	
194 607	Valuation of Stock Plant and Equipment, 30 June 1945	194 607
3 140 731	Loan Funds.....	3 140 731
	Other—	
6 769	Commonwealth Grants	6 769
611 897	State Highways Trust Fund	611 897
3 423 274	General Reserve for Increased Cost of Plant Replacement.....	....
\$8 361 683	TOTAL FUNDS	\$10 109 909
	THESE FUNDS ARE REPRESENTED BY—	
	Current Assets—	
....	Cash at Treasury	382 795
425 490	Work in Progress	138 258
1 208 028	Accrued Revenue	1 461 692
7 816	Apprentice Tool Kits	6 117
1 641 334		1 988 862
	Current Liabilities—	
4 664	Cash at Treasury .....	....
652 265	Accrued Expenses	806 418
656 929		806 418
984 405	Working Capital.....	1 182 444
	Fixed Assets—	
1 607 501	Land and Buildings.....	1 727 145
384 279	Less Provision for Depreciation.....	406 300
		1 320 845
17 447 691	Plant and Equipment	19 621 268
11 293 635	Less Provision for Depreciation.....	12 014 648
		7 606 620
\$8 361 683	TOTAL FUNDS	\$10 109 909

ROAD CONSTRUCTION PLANT SUSPENSE ACCOUNT

Statement of Source and Application of Funds for financial period 29 March 1986 to 28 March 1987

1986 \$			1987 \$
	SOURCE OF FUNDS—		
	Funds from Operations (1)—		
17 823 914	Inflow of Funds from Operations	21 291 370	
17 044 262	Less Outflow of Funds from Operations	18 395 916	
<u>779 652</u>			2 895 454
	Reduction in Assets—		
	Current Assets—		
380 382	Cash at Treasury .....	....	
44 460	Accrued Revenue .....	....	
....	Work in Progress	287 231	
....	Apprentice Tool Kits	1 699	288 930
	Proceeds from Sale of Fixed Assets—		
529 347	Plant and Equipment		401 423
<u>954 189</u>			690 353
	Increase in Liabilities—		
	Current Liabilities—		
....	Accrued Expenses		154 153
	Transfer of Funds—		
285 000	Contribution from State Highways Trust Fund .....		....
<u>\$2 018 841</u>	TOTAL		<u>\$3 739 960</u>
	APPLICATION OF FUNDS—		
	Increase in Assets—		
	Current Assets—		
....	Cash at Treasury	387 459	
....	Accrued Revenue	253 664	
304 864	Work in Progress .....	....	
1 467	Apprentice Tool Kits .....	....	641 123
	Fixed Assets—		
69 632	Land and Buildings	50 013	
1 572 497	Plant and Equipment	3 048 824	3 098 837
<u>1 948 460</u>			3 739 960
	Decrease in Liabilities—		
	Current Liabilities—		
70 381	Accrued Expenses .....		....
<u>\$2 018 841</u>	TOTAL		<u>\$3 739 960</u>

ROAD CONSTRUCTION PLANT SUSPENSE ACCOUNT

NOTES TO AND FORMING PART OF THE ACCOUNTS

1. Reconciliation of funds from operations with operating excess:

\$			\$
779 652	Funds from Operations		2 895 454
	Add/(Less)—		
130 634	profit on sale of assets		146 735
5 815	provisions .....		....
(1 035 629)	depreciation		1 293 963
\$(119 528)	Operating excess/(deficiency)		\$1 748 226

2. Principal Accounting Policies

(a) Basis of Accounting

The accounts have been prepared under the historical cost convention, and have not been adjusted to take into account changing money values or current valuations of fixed assets or their impact on the operating results.

(b) Fixed Assets

All fixed assets are valued at historical cost, although certain workshop equipment items are revalued periodically, the last of which was undertaken in 1979-80, and was reflected in the accounts for that year.

(c) Depreciation

Depreciation is charged on all fixed assets, down to a residual value. The methods used are:

(i) Land and Buildings	2% annually on a reducing balance basis.
(ii) Light Vehicles	Fixed amount per kilometre or hour on a usage basis.
(iii) Trucks	30% annually on a reducing balance basis.
(iv) Heavy Equipment	20% annually on a reducing balance basis, plus 25% of cost x hours worked 10 000 hours
(v) Workshop Equipment	10% annually on a straight line basis.
(vi) Minor Plant	Varies between 10% to 40% on a reducing balance basis.

(d) General Reserve for Increased Cost of Plant Replacement

This reserve was maintained to provide for the additional costs associated with the replacement of plant and equipment. Its operation has ceased, and the balance of \$3 423 274.07 was transferred to the Accumulation Account. There is no financial effect of this change in accounting policy on the current year's profit.

(e) Comparative Figures

Comparative figures are presented on a basis consistent with the current year.

3. Workshop Operations

Accounting for workshop operations is normally based on thirteen four weekly periods, however the attached financial statements cover the financial period 16 March 1986 to 28 March 1987. This was necessary to bring workshop operations into line with the financial period of the overall account.

4. Contribution to Salaries and Administrative Costs

The amount paid to the State Highways Trust Fund to cover those salaried public servants who are directly involved in this function.

ANNEXURE E

DETAILS OF CLASSIFIED ROADS BY LENGTH AND SURFACE TYPE

(See Map Included)

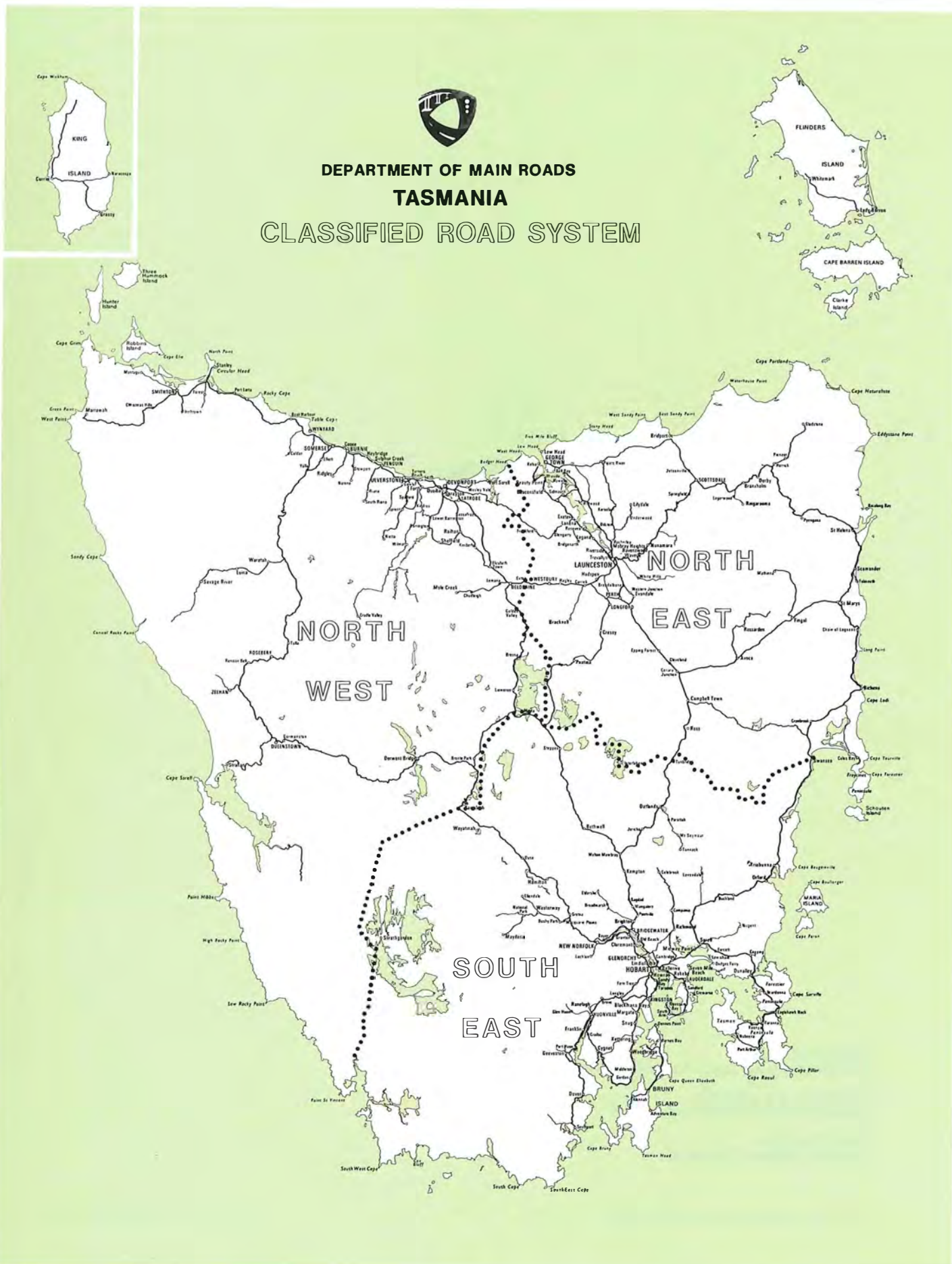
	Length in Kilometres		
	Sealed	Unsealed	Total
State Highways	1 848.30	78.97	1 927.27
Main Roads	1 204.77	54.94	1 259.71
Secondary Roads	254.63	42.72	297.35
Tourist Roads	101.89	69.64	171.53
Developmental Roads	20.68	24.45	45.13
TOTAL	3 430.27	270.72	3 700.99



DEPARTMENT OF MAIN ROADS

TASMANIA

CLASSIFIED ROAD SYSTEM





FRONT COVER
Tasman Highway/Davey Street Extension

INSIDE BACK COVER
Hobart Southern Outlet Duplication

BACK COVER
Falmouth Chain of Lagoons



